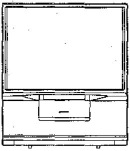
Service Manual

PIONEER
The Art of Entertainment


• SD-P5191-K

ORDER NO.
ARP2933

PROJECTION MONITOR RECEIVER

SD-P5191-K

SD-P4691-K

SD-P5193-K

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model			Power Requirement	Remarks
	SD-P5191-K	SD-P4691-K	SD-P5193-K		
KUXC	○	○	○	AC120V	

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PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE, INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER ELECTRONIC (EUROPE) N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 501 Orchard Road, #10-00 Lane Crawford Place, Singapore 0923

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O-ISC JUNE 1996 Printed in Japan

**SD - P5191 - K, SD - P4691 - K,
SD - P5193 - K**

**This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.**

WARNING
**Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.**

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols ▮▭ (fast operating fuse) and/or ▮▬ (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible ▮▭ (fusible de type rapide) et/ou ▮▬ (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

1. SAFETY PRECAUTIONS

NOTICE:Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube.

The following precautions should be observed:

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away while picture tubes are handled.
   Keep picture tube away from the body while handling.
2. When service is required, even though the PROJECTION MONITOR RECEIVER an isolation transformer should be inserted between power line and the set in safety before any service is performed.
3. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
4. When service is required, observe the original lead dress.
   Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
5. Always use the manufacturer's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's.
   Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
6. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacturer has become defective, or inadvertently defeated during servicing.

Therefore, the following checks should be performed for the continued protection of the customer and service technician.

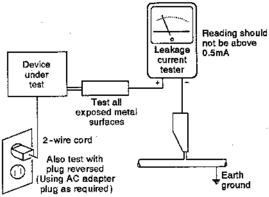
Leakage Current Cold Check

With the AC plug removed from the 120V AC 60Hz source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester(DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part(input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 0.3MΩ and a maximum resistor reading of 5MΩ . Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into a 120V AC 60Hz outlet (do not use an isolation transformer for this check). Turn the AC power switch on.

Using a "Leakage Current Tester(Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet(input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground(water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
Device under test
+
-
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

High Voltage

This set is provided with a X-ray protection for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this X-ray protection may correctly be operated.

Serviceman Warning

In the status of the black picture(video muting is being applied)when no signal is input, high voltage of this set during operation is less than 30.5kV. In case any component having some relation to the high voltage is replaced, confirm that the high voltage is lower than 30.5kV in the status of the black picture when no signal is input.

To measure H.V. use a high impedance H.V. meter.

Connect (–) to earth and (+) to the FBT anode cable connector. (Refer to page 85.)

X-radiation

TUBE:The primary source of X-radiation in this set is the picture tube.

For continued X-radiation protection, the replacement tube must be the same type as the original, PIONEER approved type.

The picture tube(CRT assy R, G, B)used in this set holds complete guarantee against X-ray radiation when the X-ray is sealed (See page 4). Accordingly, when the current in flowing to the picture tube(CRT assy R, G, B), be sure to perform it by putting the tube into X-ray sealed applied state. Avoid absolutely to flow the current to the picture tube (CRT assy R, G, B) itself. Moreover, when the voltage of the high voltage circuit becomes abnormally a little higher, the picture tube radiates X-rays. Accordingly, when servicing the high voltage circuit be sure to replace as an assy with the POWER SUPPLY assy in the manner in which has been adjusted to perform normal operation.

2.PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, X-radiation, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

3. CHARGED SECTION, HIGH VOLTAGE GENERATING POINT AND X-RAY PROTECTION

■ Charged section

The circuit in which the commercial AC power is used as it is without passing through the power supply transformer. If the charged section is touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. In this case, be sure to connect the set via an insulated transformer and supply the current.

■ Charged section
(Power supply primary side)

1. The primary side of the POWER SUPPLY assy
2. AC power cord
3. MAIN POWER switch

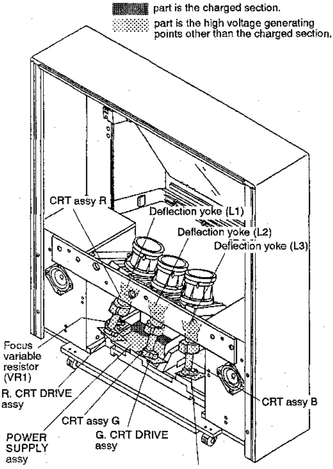

▨ part is the charged section.
░ part is the high voltage generating points other than the charged section.
CRT assy R
Deflection yoke (L1)
Deflection yoke (L2)
Deflection yoke (L3)
Focus variable resistor (VR1)
R. CRT DRIVE assy
CRT assy B
CRT assy G
POWER SUPPLY assy
G. CRT DRIVE assy
B. CRT DRIVE assy

Fig. 1 Charged section and high voltage generating point

■ High voltage generating point

The place where voltage of over 100V is generated.

1. Charged section	
2. POWER SUPPLY assy (including FBT)	(30.0kV, 135V)
3. R. CRT DRIVE assy	(10.5kV)
4. G. CRT DRIVE assy	(10.5kV)
5. B. CRT DRIVE assy	(10.5kV)
6. CRT assy R	(30.0kV)
7. CRT assy G	(30.0kV)
8. CRT assy B	(30.0kV)
9. Focus variable resistor (VR1)	(10.5kV)
10. Deflection yokes (L1, L2, and L3)	(Approx. 1100V at peak)

■ X-ray protection

- Regarding the parts which are relative to radiation of X-rays (There is the danger to radiate X-ray from the individual CRT assy R, G, B), there are notifications of caution in the individual schematic diagrams. Be sure to read them for safety's sake.
- The component parts for X-ray protection are as follows :When the current flows to the CRT assy R, G, B, be sure to perform it with these parts being attached. Protection from the X-ray radiation is maintained in the state in which these parts have been installed to the CRT assy R, G, B. Accordingly, never supply current only to the CRT assy R, G, B.

  Moreover, the anode voltage of the CRT assy R, G, B should always be kept not higher than the predetermined value (in the minimum brightness and picture state when non signal input is higher than 30.5kV). Be sure to drive the CRT assy R, G, B by using a completely functional POWER SUPPLY assy which have been adjusted completely in the combined state. (When the voltage abnormally becomes high, the X-ray protection circuit will operate.)

1. CRT assy R, G, B (Do not dismantle CRT assemblies under any circumstances).
2. Each Lens assy

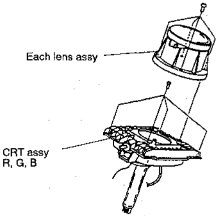

Each lens assy
CRT assy R, G, B

Fig. 2 Component parts for X-ray protection

4. PACKING, EXPLODED VIEWS AND PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *Parts marked by ☆ are important parts which relate to X-rays radiation.*
  If any of these parts need to be replaced, always replace with specified parts.
- *For POWER SUPPLY ASSY, AWV1538 is used, but for servicing, AWV1551 is supplied.*
  AWV1551 is the same as AWV1538 of which X-ray protection and high voltage sections have been adjusted and these adjusted parts are covered with the shield cases. Therefore, AWV1551 need not be adjusted.

4.1 PARTS LIST

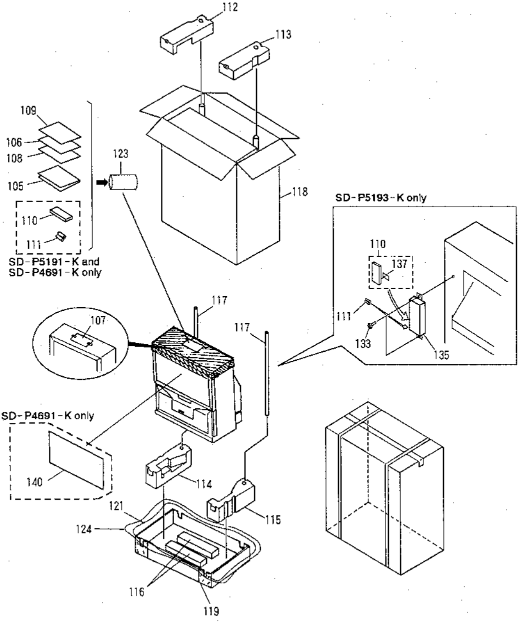
Mark	No.	Description	Part No.
	1	TUNER•VIDEO ASSY (SD-P5191-K AND SD-P4691-K)	AWV1539
	1	TUNER•VIDEO ASSY (SD-P5193-K)	AWV1552
	2	FRONT CONTROL ASSY	AWZ6061
	3	R.CRT DRIVE ASSY	AWZ6062
	4	G.CRT DRIVE ASSY	AWZ6063
	5	B.CRT DRIVE ASSY	AWZ6064
	6	A CONNECTOR ASSY	AWZ6065
	7	VM & B CONNECTOR ASSY	AWZ6066
	8	DUAL TUNER ASSY	AWZ6068
	9	INDICATOR ASSY	AWZ6069
	10	POWER SW ASSY	AWZ6096
	11	AV I/O ASSY	AWZ6070
	12	CONVERGENCE ASSY	AWZ6071
	13	S INPUT ASSY	AWZ6072
☆	14	POWER SUPPLY ASSY	AWV1551
⚠☆	15	CRT ASSY 51R (SD-P5191-K)	AWY1350
⚠☆	15	CRT ASSY 46R (SD-P4691-K)	AWY1353
⚠☆	15	CRT ASSY 51R (SD-P5193-K)	AWY1359
⚠☆	16	CRT ASSY G (SD-P5191-K AND SD-P4691-K)	AWY1351
⚠☆	16	CRT ASSY G (SD-P5193-K)	AWY1360
⚠☆	17	CRT ASSY 51B (SD-P5191-K)	AWY1352
⚠☆	17	CRT ASSY 46B (SD-P4691-K)	AWY1354
⚠☆	17	CRT ASSY 51B (SD-P5193-K)	AWY1361
	18	CNR ASSY (SD-P5193-K ONLY)	AWZ6095
	19	RF SWITCH	AXF1086
⚠	20	VR1 FOCUS VR	ACX1096
⚠	21	L4 VM COIL	ATL1123
⚠	22	L5 VM COIL	ATL1123
⚠	23	L6 VM COIL	ATL1123
⚠	24	L1 DEFLECTION YOKE	ATL1124
⚠	25	L2 DEFLECTION YOKE	ATL1124
⚠	26	L3 DEFLECTION YOKE	ATL1124
⚠	27	FUSE(FU102, 500mA/125V)	AEK1010
	28	CONE SPEAKER	APV1023
⚠	29	AC POWER CORD	BDG1019
	30	J25 VM WIRE HARNESS	ADX2229
	31	J11 4P HOUSING WIRE	ADX2230
	32	J7 1P LEAD WIRE	ADX2231
	33	J8 1P LEAD WIRE	ADX2232
	34	J9 1P LEAD WIRE	ADX2233
	35	J24 4P HOUSING WIRE(SP)	ADX2234
	36	J8009 WIRE HARNESS	ADX2235
	37	J4 1P LEAD WIRE	ADX2236
	38	J5 1P LEAD WIRE	ADX2237
	39	J6 1P LEAD WIRE	ADX2238
⚠	40	J1 ANODE CABLE	ADY1022
NSP	41	CHASSIS	AMA1011
NSP	42	CRT FRONT FRAME(51) (SD-P5191-K AND SD-P5193-K)	ANA1513
NSP	42	CRT FRONT FRAME(46) (SD-P4691-K)	ANA1514
NSP	43	CRT STAND HOLDER(L)	ANA1516
NSP	44	CRT STAND HOLDER(R)	ANA1517
NSP	45	CRT REAR FRAME(51) (SD-P5191-K AND SD-P5193-K)	ANA1518
NSP	45	CRT REAR FRAME(46) (SD-P4691-K)	ANA1519
	46	REAR PANEL (SD-P5191-K AND SD-P4691-K)	ANC2273
	46	REAR PANEL (SD-P5193-K)	ANC2274
NSP	47	CRT SUB FRAME	ANG2089
NSP	48	CORNER FRAME A	ANG2090
NSP	49	CORNER FRAME B	ANG2091
NSP	50	PCB FRAME	ANG2045
NSP	51	SCREEN HOLDER H (51) (SD-P5191-K)	ANG2048
NSP	51	SCREEN HOLDER H (46) (SD-P4691-K)	ANG2049
NSP	51	SCREEN HOLDER H (51A) (SD-P5193-K)	ANG2052
NSP	52	SCREEN HOLDER V (51) (SD-P5191-K)	ANG2050
NSP	52	SCREEN HOLDER V (46) (SD-P4691-K)	ANG2051
NSP	52	SCREEN HOLDER V (51A) (SD-P5193-K)	ANG2054
NSP	53	PCB HOLDER H	ANG2056

SD - P5191 - K, SD - P4691 - K, SD - P5193 - K

Mark	No.	Description	Part No.
	54	SHIELD CASE	ANK1510
	55	NYLON BINDER	AEC-093
	56	RIVET	AEC-441
NSP	57	PURSE LOCK S	AEC1261
NSP	58	CABINET WIRE HOLDER	AEC1263
NSP	59	LEAD CLAMPER M	AEC1611
	60	AC CORD STOPPER	AEP-113
	61	BINDER	AEP-215
	62	WIRE HOLDER	AMR2832
☆	63	LENS ASSY (SD-P5191-K AND SD-P4691-K)	AMR2833
☆	63	LENS ASSY (SD-P5193-K)	AMR2803
	64	MIRROR	AMR2834
	65	LENTICULAR SHEET (51) (SD-P5191-K AND SD-P5193-K)	AMR2835
	65	LENTICULAR SHEET (46) (SD-P4691-K)	AMR2841
	66	FRESNEL (51) (SD-P5191-K AND SD-P5193-K)	AMR2836
	66	FRESNEL(46) (SD-P4691-K)	AMR2843
	67	SCREW	ABA1149
	68	SCREW (STEEL)	ABA1168
	69	SPECIAL SCREW	ABA1234
	70	SPECIAL SCREW	ABA1235
	71	SPECIAL SCREW	ABA1239
	72	SPECIAL SCREW	ABA1240
	73	SPECIAL SCREW	ABA1241
	74	HEXAGONAL DUCT NUT	ABN-087
	75	SCREW	ABZ30P120FZK
	76	SCREW	ACZ40P120FMC
	77	SCREW	AMZ40P080FZK
	78	SCREW	BBZ30P140FZK
	79	SCREW	BPZ30P120FMC
	80	SCREW	BYC40P350FZK
	81	SCREW	FBT40P120FZK
	82	SCREW	PMB50P200FZK
	83	SCREW	VBZ30P200FMC
	84	SCREW	VPZ40P120FZK
	85	• • • • •	
NSP	86	BACK COVER PANEL	AMM2566
	87	MIRROR HOLDER	AMR2828
	88	MIRROR SIDE HOLDER (L)	AMR2829
	89	MIRROR SIDE HOLDER (R)	AMR2830
NSP	90	TRAY (PLS)	AMR2831
	91	CONTROL SHEET	AAK2659
	92	INDICATOR PANEL	AAK2672
	93	BADGE (SD-P5191-K AND SD-P4691-K)	AAM1074
	93	BADGE (SD-P5193-K)	AAM1075
	94	DOOR 51 (SD-P5191-K)	AAN1418
	94	DOOR 46 (SD-P4691-K)	AAN1419
	94	DOOR 51A (SD-P5193-K)	AAN1420
	95	SCREEN FRAME 51 (SD-P5191-K AND SD-P5193-K)	AMB2574
	95	SCREEN FRAME 46 (SD-P4691-K)	AMB2575
	96	CONTROL PANEL	AMB2576
	97	GRILLE 51 (SD-P5191-K AND SD-P5193-K)	AMR2816
	97	GRILLE 46(SD-P4691-K)	AMR2817
	98	DECORATION PANEL 51 (SD-P5191-K AND SD-P5193-K)	AMR2822
	98	DECORATION PANEL 46 (SD-P4691-K)	AMR2824
	99	MIRROR CASE	AME2298
	100	REAR COVER	AME2299
NSP	101	CABINET BACK BOARD	AMM2708
NSP	102	CATCHER B	AEC1507
	103	CATCHER F2M	AEC1609
	104	BUSHING	AEC1661
	105	OPERATING INSTRUCTIONS (ENGLISH) (SD-P5191-K AND SD-P4691-K)	ARB1498
	105	OPERATING INSTRUCTIONS (ENGLISH) (SD-P5193-K)	ARB1499
NSP	106	SAFEGUARD CARD	ARM1075
	107	CONVER ATTENTION CARD	ARM1114
NSP	108	CAUTION CARD	AAX1196
NSP	109	WARRANTY CARD	ARY1050
	110	SR REMOTE CONTOROL ASSY (CU-SD090) (SD-P5191-K AND SD-P4691-K)	AXD1414
	110	SR REMOTE CONTOROL ASSY (CU-SD098) (SD-P5193-K)	AXD1426
NSP	111	ALKALINE BATTERY(LR6, AA)	AEX1018
	112	UPPER PAD L	AHA2101
	113	UPPER PAD R	AHA2102
	114	UNDER PAD L	AHA2103
	115	UNDER PAD R	AHA2104
NSP	116	UNDER CUSION	AHA2110
	117	CLYINDRICAL SUPPORT (SD-P5191-K AND SD-P5193-K)	AHB1169
	117	CLYINDRICAL SUPPORT(46) (SD-P4691-K)	AHB1171
	118	UPPER CARTON (51) (SD-P5191-K AND SD-P5193-K)	AHD2829
	118	UPPER CARTON (46) (SD-P4691-K)	AHD2832
	119	UNDER CARTON (51) (SD-P5191-K AND SD-P5193-K)	AHD2830
	119	UNDER CARTON (46) (SD-P4691-K)	AHD2834
	120	• • • • •	
NSP	121	PACKING SEAT M	AHG1094
NSP	122	VINYL SEAT XL	AHG1095
NSP	123	LITERATURE BAG	AHG1222
NSP	124	LAMINATED SHEET	AHG1244
	125	• • • • •	
	126	CASTER	AMR2547
	127	CASTER	AMR2863

Mark	No.	Description	Part No.
	128	SPECIAL SCREW	ABA1126
	129	SCREW	BYC35P160FZK
	130	MAGIC TAPE C	AEC1637
	131	BLIND SPACER 51 (SD-P5191-K AND SD-P5193-K)	AEC1662
	131	BLIND SPACER 46 (SD-P4691-K)	AEC1663
	132	SCREEN COVER PANEL (SD-P5193-K ONLY)	AAK2661
	133	SPECIAL SCREW (SD-P5193-K ONLY)	ABA1239
	134	BAND (SD-P5193-K ONLY)	AED1161
	135	CU PACKING CASE (SD-P5193-K ONLY)	AHC1019
	136	VIDEO BOARD ASSY (SD-P5193-K ONLY)	AMR2873
	137	BATTERY COVER (SD-P5193-K ONLY)	AZN7327
	138	TV FRONT END SYSTEM UNIT	AXF1084
⚠	139	FUSE (FU101, 8A/125V)	AEK1002
	140	SPECIAL SCREW	ABA1243

4.2 PACKING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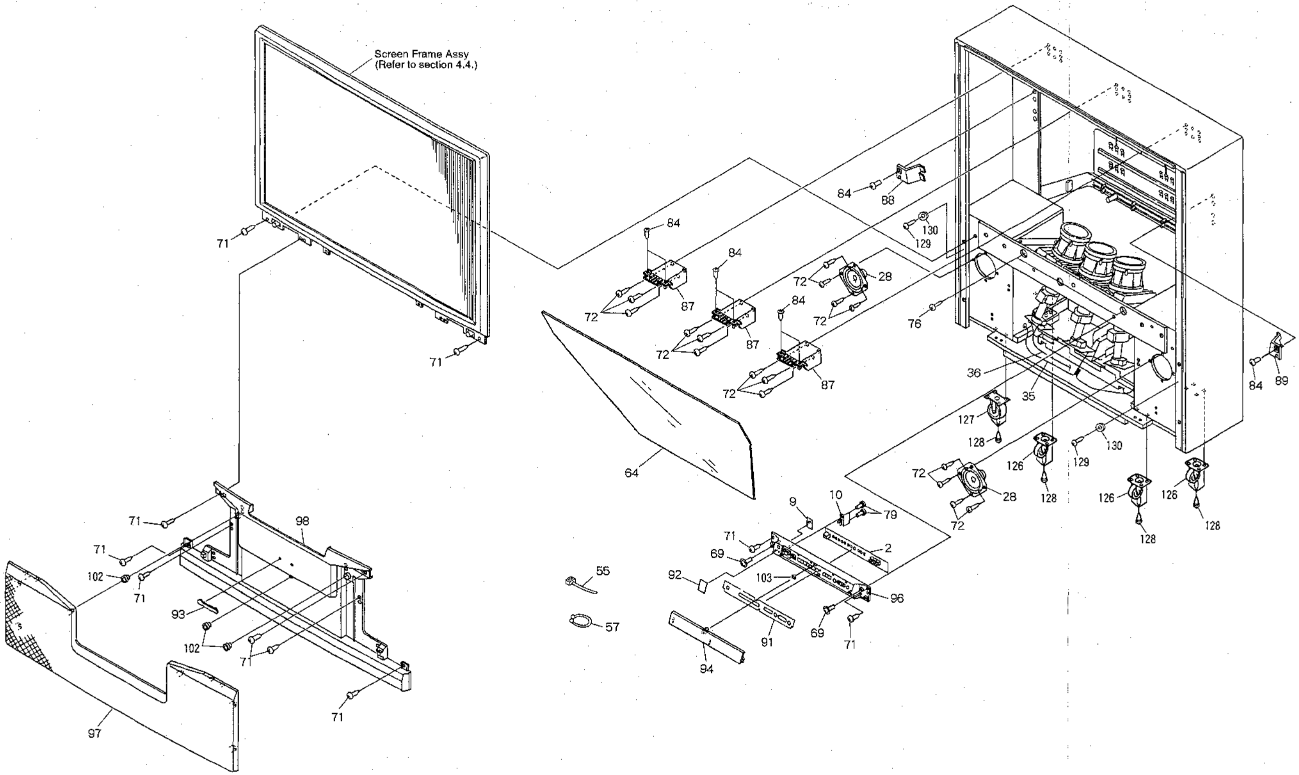
4.3 FRONT VIEW


Screen Frame Assy
(Refer to section 4.4.)
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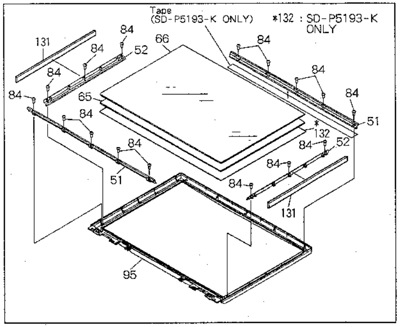
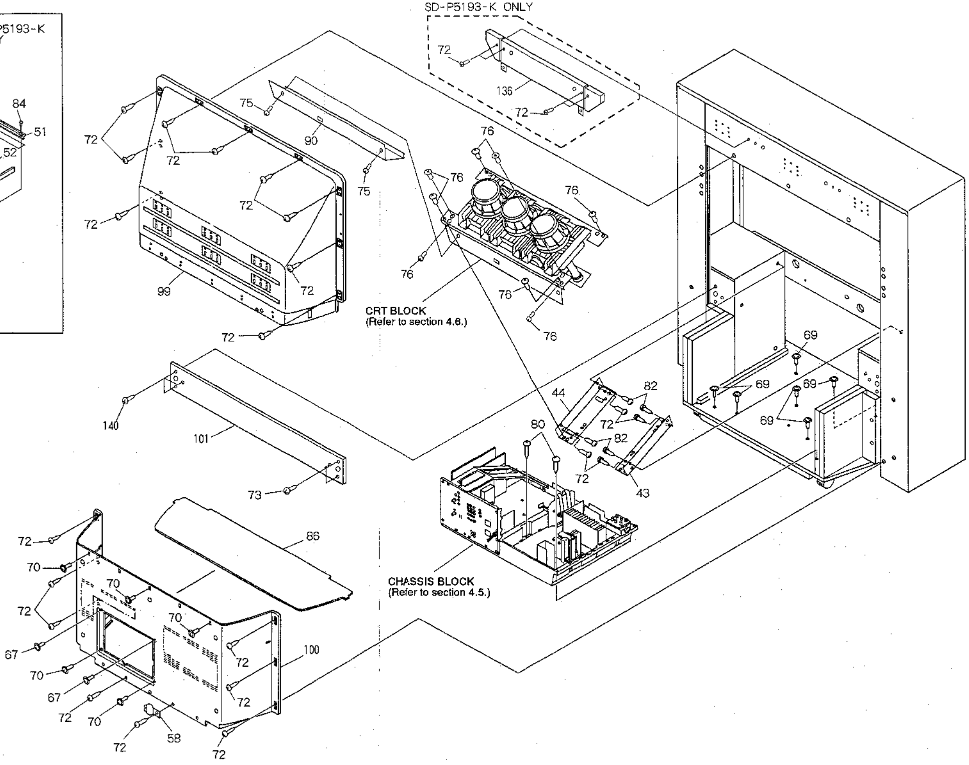
NOTE: Screws adjacent to ▼ mark on the product
are used for disassembly.

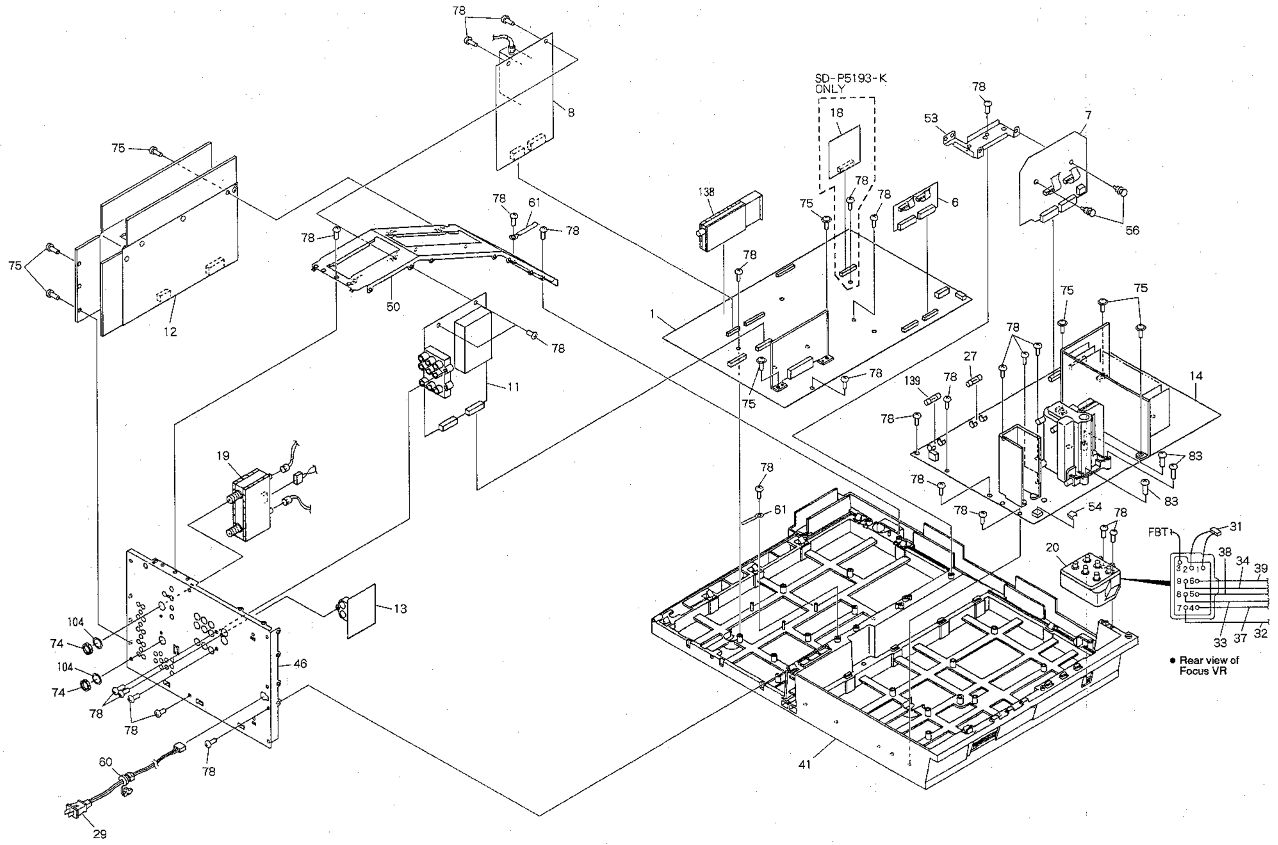
4.4 REAR VIEW AND SCREEN FRAME ASSY

- SCREEN FRAME ASSY

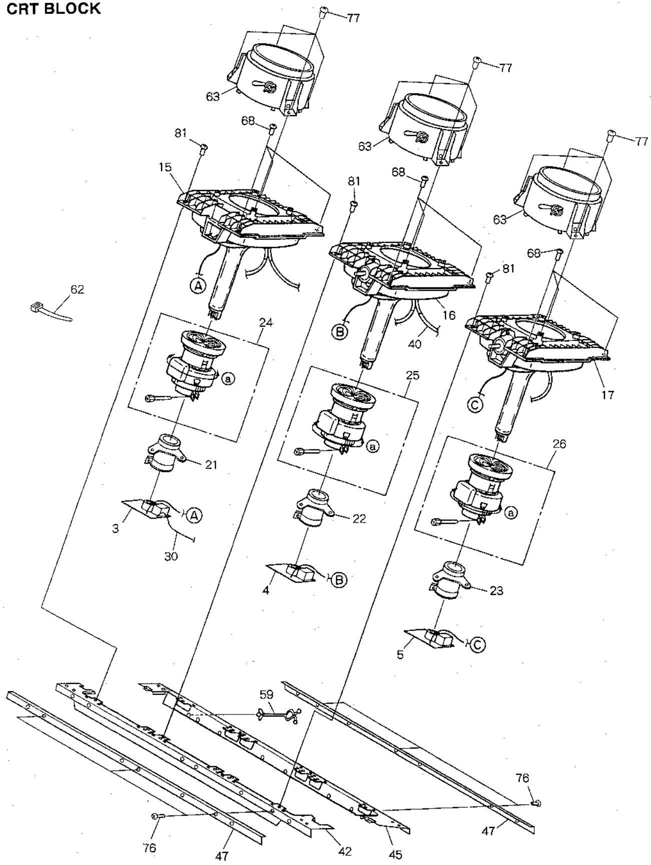

Tape
(SD-P5193-K ONLY)
*132 : SD-P5193-K ONLY
131
84
52
66
65
84
51
*132
95
131


SD-P5193-K ONLY
72
136
75
90
76
CRT BLOCK
(Refer to section 4.6.)
99
72
140
101
73
86
69
82
44
80
43
CHASSIS BLOCK
(Refer to section 4.5.)
70
67
100
58

4.5 CHASSIS BLOCK


78
8
75
75
12
78
61
78
78
50
78
11
19
13
104
74
104
74
78
78
46
78
60
29
SD-P5193-K
ONLY
18
78
78
75
138
78
1
75
78
53
78
7
6
56
75
75
78
27
139
78
78
14
78
83
83
78
78
54
78
61
78
20
FBT
31
38
34
39
3 2 1
9 6
8 5
7 4
33
37
32
● Rear view of
Focus VR
41

4.6 CRT BLOCK



5. SCHEMATIC AND PCB CONNECTION DIAGRAMS

NOTE FOR SCHEMATIC DIAGRAMS

(Type 5A)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:
Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance:(F):±1%, (G):±2%, (K):±10%, (M):±20% or ±5% unless otherwise noted.

4. CAPACITORS:
Unit : p:pF or μF unless otherwise noted.
Ratings : capacitor (μF) / voltage (V) unless otherwise noted.
Rated voltage : 50V except for electrolytic capacitors.

5. COILS:
Unit : m:mH or μH unless otherwise noted.

6. VOLTAGE AND CURRENT:
▭ or ←V :
DC voltage (V) at no input signal unless otherwise noted.
Value in ( ) is DC voltage at color bar signal input state.
⇐mA or ←mA :
DC current at no input signal unless otherwise noted.

7. OTHERS:
- ⊘ or ● : Adjusting point.
- ⊲ : Measurement point.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by ☆ are important parts which relate to X-rays radiation. If any of these parts needs to be replaced, always replace with specified parts.
- Parts marked by × are important parts which relate to X-rays radiation. If a failure occurs in any of these parts, replace the printed circuit board assembly where the relevant part has already been adjusted as a working component. Do not replace the actual part itself. If any part marked by × is replaced, there is danger of being exposed to X-rays.

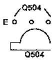
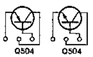
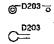
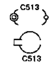
8. SCH – □ ON THE SCHEMATIC DIAGRAM:
- SCH– □ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

9. SWITCHES (Underline indicates switch position) :
POWER SW ASSY
S3511 : MAIN POWER

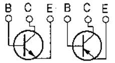
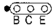
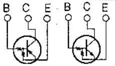
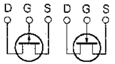
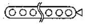
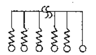
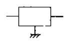
FRONT CONTROL ASSY
S4101 : POWER STANDBY/ON
S4102 : INPUT SELECTOR
S4103 : CHANNEL –
S4104 : CHANNEL +
S4105 : VOLUME –
S4106 : VOLUME +
S4107 : RETURN
S4108 : FACTORY ADJ

NOTE FOR PCB DIAGRAMS:

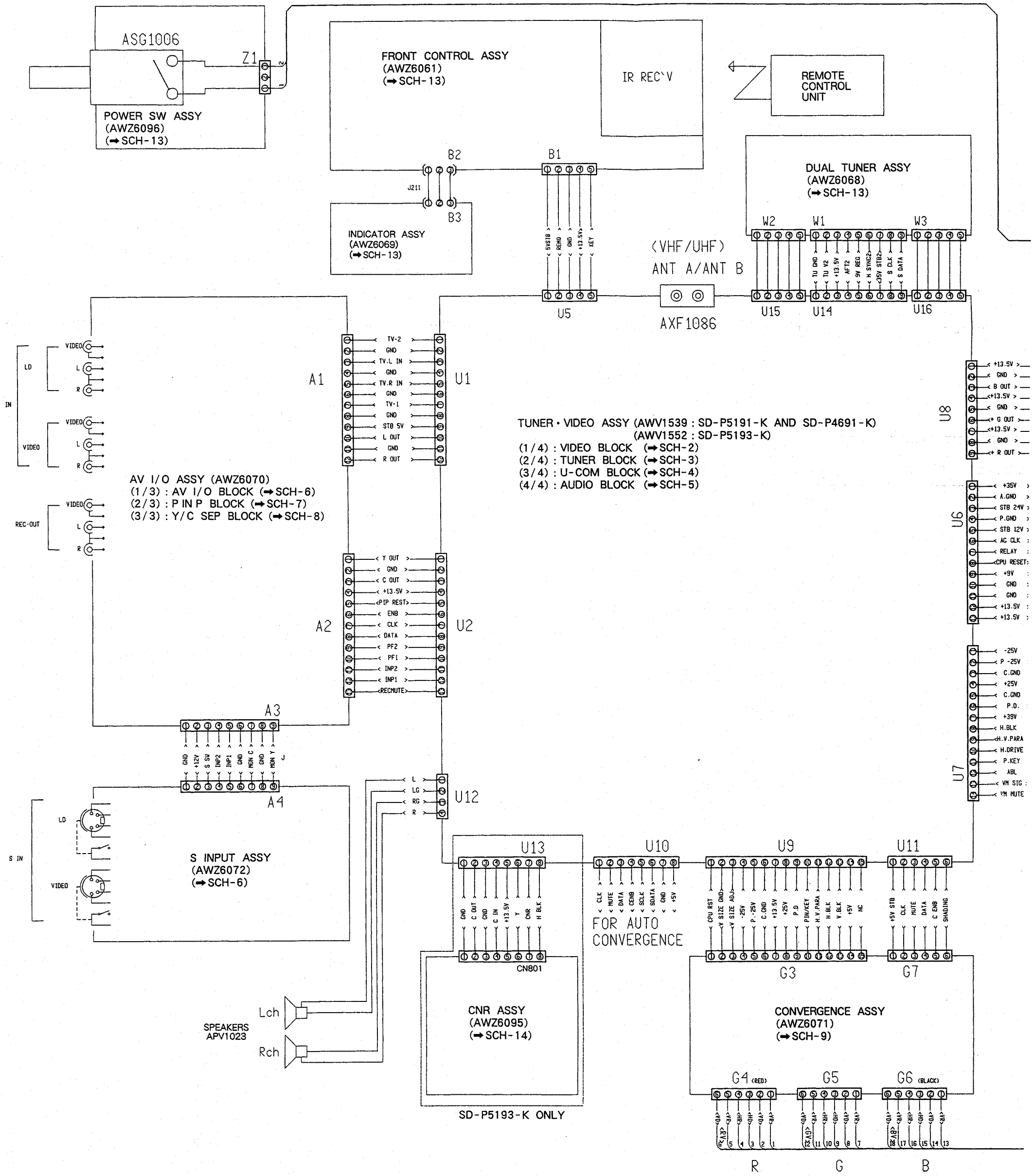
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

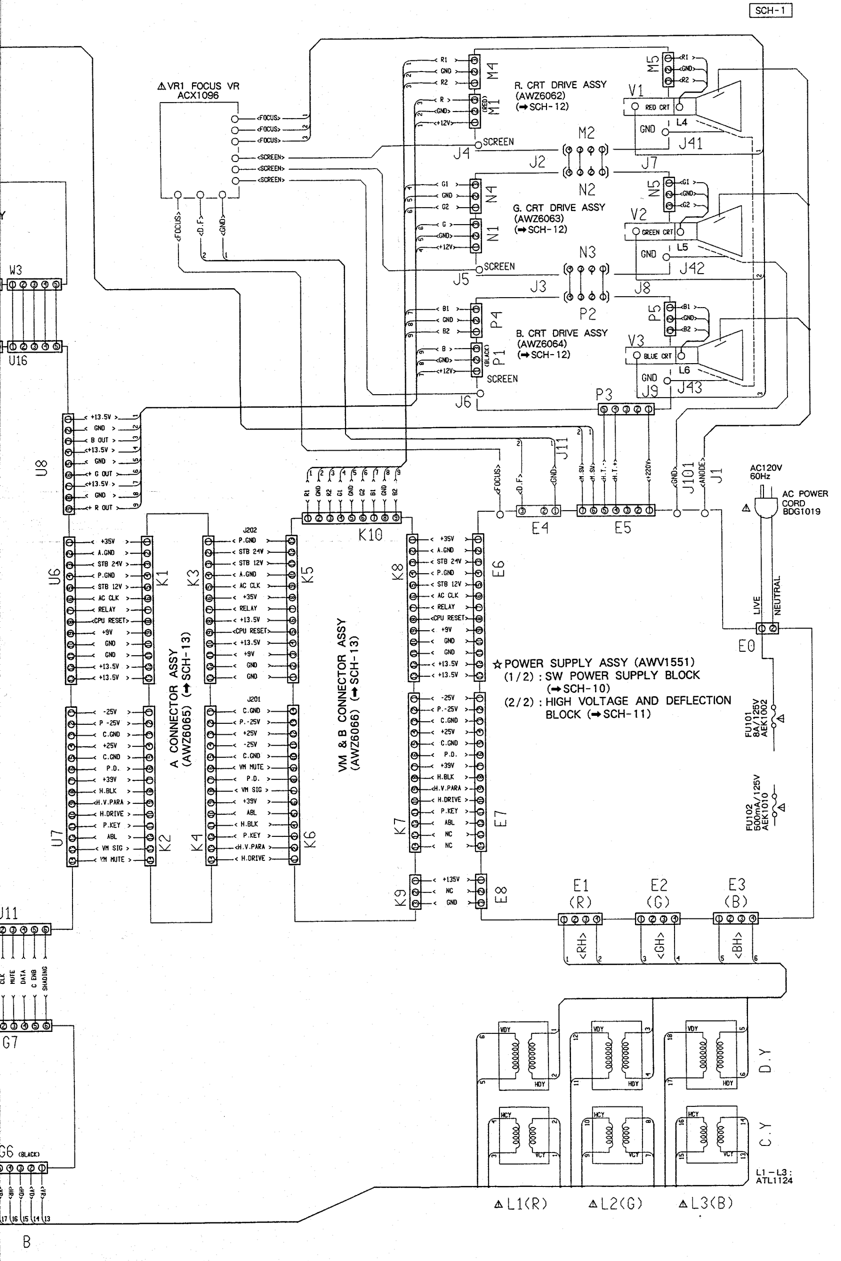
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Diode
		Capacitor (Polarized)

3. The transistor terminal marked with E or ⊏ shows the emitter.
4. The diode terminal marked with ◎ or ⊂ shows cathode side.
5. The capacitor terminal marked with ◎ or ⊏ shows negative terminal.
6. The parts mounted on each PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

5.1 OVERALL WIRING DIAGRAM

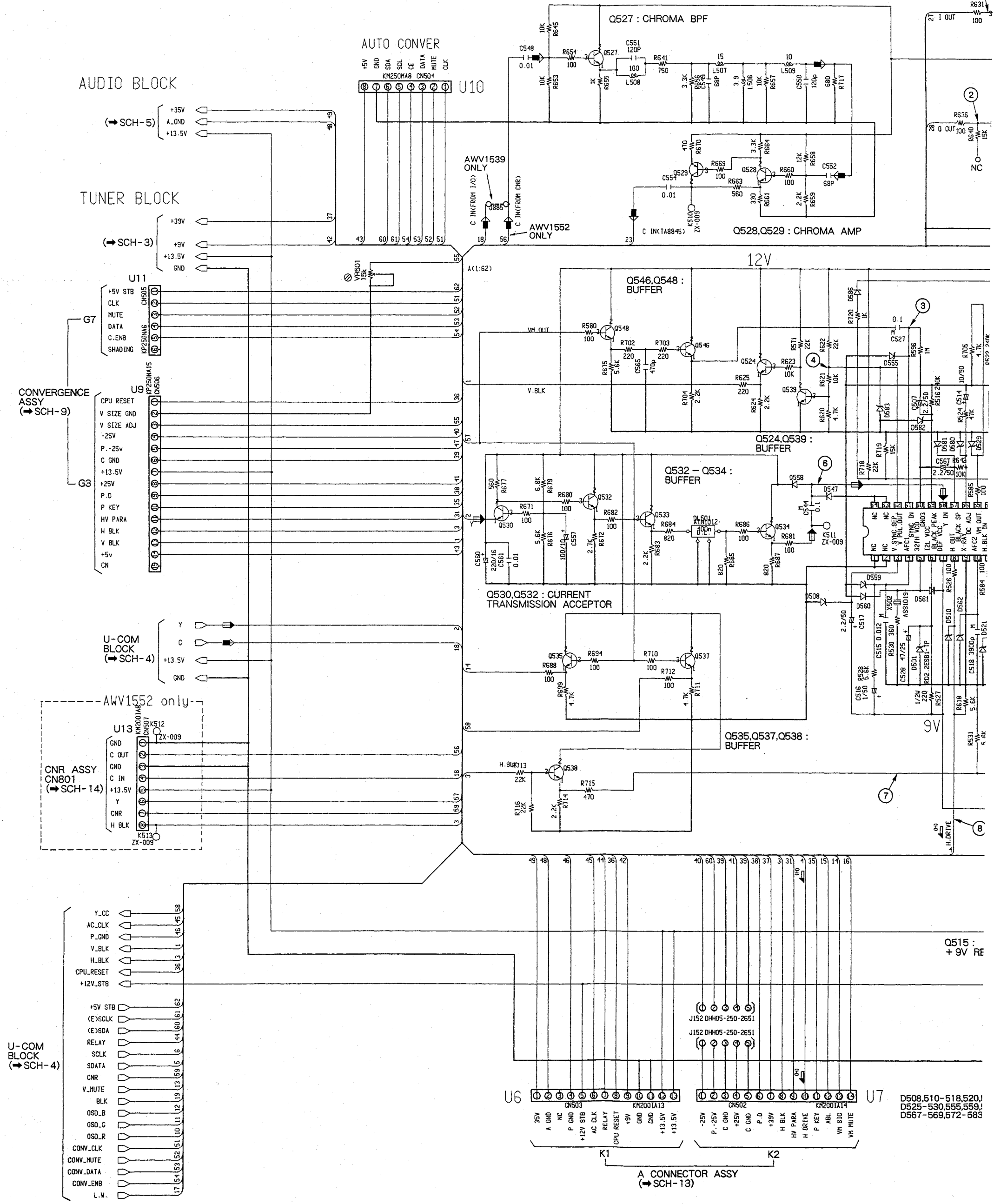

ASG1006
Z1
POWER SW ASSY
(AWZ6096)
(➡SCH-13)
FRONT CONTROL ASSY
(AWZ6061)
(➡SCH-13)
IR REC`V
REMOTE CONTROL UNIT
B2
B1
J211
B3
INDICATOR ASSY
(AWZ6069)
(➡SCH-13)
5VSTB
REMO
GND
+13.5V
KEY
U5
(VHF/UHF)
ANT A/ANT B
AXF1086
DUAL TUNER ASSY
(AWZ6068)
(➡SCH-13)
W2
W1
W3
TU GND
TU V2
+13.5V
AFT2
9V REG
H SYNC2
35V STB2
S CLK
S DATA
U15
U14
U16
IN
LD
VIDEO
L
R
REC-OUT
A1
TV-2
GND
TV.L IN
GND
TV.R IN
GND
TV-1
GND
STB 5V
L OUT
GND
R OUT
U1
AV I/O ASSY (AWZ6070)
(1/3) : AV I/O BLOCK (➡SCH-6)
(2/3) : P IN P BLOCK (➡SCH-7)
(3/3) : Y/C SEP BLOCK (➡SCH-8)
TUNER・VIDEO ASSY (AWV1539 : SD-P5191-K AND SD-P4691-K)
(AWV1552 : SD-P5193-K)
(1/4) : VIDEO BLOCK (➡SCH-2)
(2/4) : TUNER BLOCK (➡SCH-3)
(3/4) : U-COM BLOCK (➡SCH-4)
(4/4) : AUDIO BLOCK (➡SCH-5)
U8
+13.5V
GND
B OUT
+13.5V
GND
G OUT
+13.5V
GND
R OUT
U6
+35V
A.GND
STB 24V
P.GND
STB 12V
AC CLK
RELAY
CPU RESET
+9V
GND
GND
+13.5V
+13.5V
A2
Y OUT
GND
C OUT
+13.5V
PIP REST
ENB
CLK
DATA
PF2
PF1
INP2
INP1
RECMUTE
U2
U7
-25V
P -25V
C.GND
+25V
C.GND
P.D.
+39V
H.BLK
H.V.PARA
H.DRIVE
P.KEY
ABL
VM SIG
VM MUTE
A3
GND
+12V
S SW
INP2
INP1
GND
MON C
GND
MON Y
J
A4
S IN
LD
VIDEO
S INPUT ASSY
(AWZ6072)
(➡SCH-6)
U12
L
LG
RG
R
U13
GND
C OUT
GND
C IN
+13.5V
Y
CNR
H BLK
CN801
CNR ASSY
(AWZ6095)
(➡SCH-14)
SD-P5193-K ONLY
Lch
Rch
SPEAKERS
APV1023
U10
CLK
MUTE
DATA
CENB
SCLK
SDATA
GND
+5V
FOR AUTO CONVERGENCE
U9
CPU RST
V SIZE GND
V SIZE ADJ
-25V
P.-25V
C.GND
+13.5V
+25V
P.D
PIN/KEY
H.V.PARA
H.BLK
V.BLK
+5V
NC
U11
+5V STB
CLK
MUTE
DATA
C ENB
SHADING
G3
G7
CONVERGENCE ASSY
(AWZ6071)
(➡SCH-9)
G4 (RED)
G5
G6 (BLACK)
VD
VR
HR
HD
VD
VR
RV
GV
BV
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
R
G
B


SCH-1
ΔVR1 FOCUS VR
ACX1096
<FOCUS>
<D.F>
<GND>
<SCREEN>
R. CRT DRIVE ASSY
(AWZ6062)
(➡SCH-12)
G. CRT DRIVE ASSY
(AWZ6063)
(➡SCH-12)
B. CRT DRIVE ASSY
(AWZ6064)
(➡SCH-12)
M1 (RED)
M2
M4
M5
N1
N2
N3
N4
N5
P1 (BLACK)
P2
P3
P4
P5
J2
J3
J4
J5
J6
J7
J8
J9
J41
J42
J43
SCREEN
V1
V2
V3
RED CRT
GREEN CRT
BLUE CRT
GND
L4
L5
L6
W3
U16
U8
U6
U7
U11
G7
G6 (BLACK)
K1
K2
K3
K4
K5
K6
K7
K8
K9
K10
J201
J202
A CONNECTOR ASSY
(AWZ6065) (➡SCH-13)
VM & B CONNECTOR ASSY
(AWZ6066) (➡SCH-13)
E0
E4
E5
E6
E7
E8
J11
J101
J1
<M.SW>
<H.T.->
<H.T.+>
<+220V>
<ANODE>
AC120V
60Hz
AC POWER
CORD
BDG1019
LIVE
NEUTRAL
FU101
8A/125V
AEK1002
FU102
500mA/125V
AEK1010
☆POWER SUPPLY ASSY (AWV1551)
(1/2) : SW POWER SUPPLY BLOCK
(➡SCH-10)
(2/2) : HIGH VOLTAGE AND DEFLECTION
BLOCK (➡SCH-11)
E1 (R)
E2 (G)
E3 (B)
<RH>
<GH>
<BH>
VDY
HDY
HCY
VCY
D.Y
C.Y
L1-L3:
ATL1124
ΔL1(R)
ΔL2(G)
ΔL3(B)
CLK
MUTE
DATA
C ENB
SHADING
B

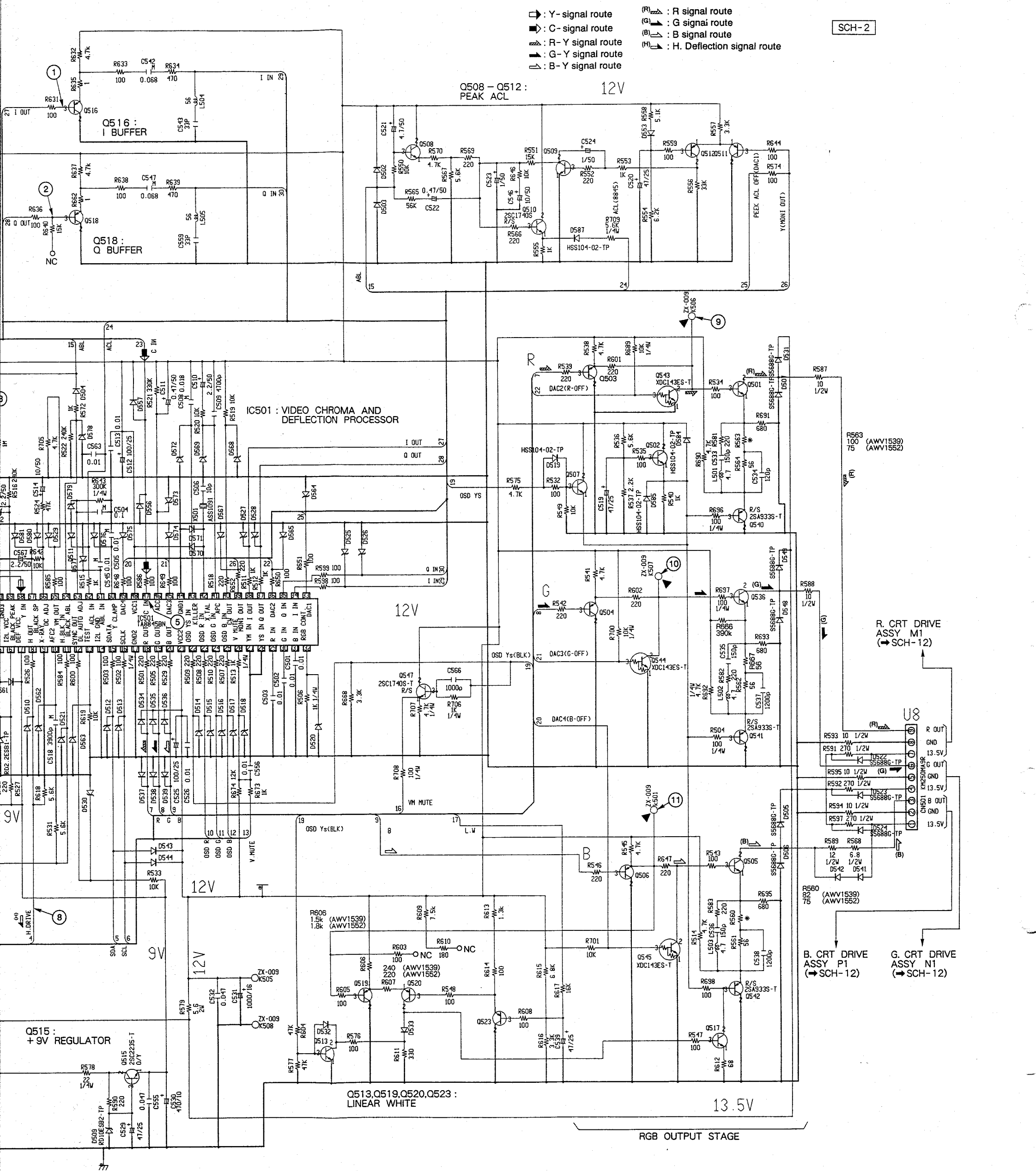
5.2 TUNER•VIDEO ASSY (1/4)

TUNER • VIDEO ASSY (1/4) (AWV1539 : SD-P5191-K AND SD-P4691-K)
(AWV1552 : SD-P5193-K)

- VIDEO BLOCK


AUDIO BLOCK
(➡SCH-5)
+35V
A_GND
+13.5V
TUNER BLOCK
(➡SCH-3)
+39V
+9V
+13.5V
GND
AUTO CONVER
U10
KM250MA8 CN504
+5V GND SDA SCL CE DATA MUTE CLK
Q527 : CHROMA BPF
Q528,Q529 : CHROMA AMP
AWV1539 ONLY
AWV1552 ONLY
C IN(FROM I/O)
C IN(FROM CNR)
C IN(TA8845)
U11
KP250NA6 CN505
+5V STB CLK MUTE DATA C.ENB SHADING
G7
CONVERGENCE ASSY (➡SCH-9)
G3
U9
KP250NA15 CN506
CPU RESET
V SIZE GND
V SIZE ADJ
-25V
P.-25v
C GND
+13.5V
+25V
P.D
P KEY
HV PARA
H BLK
V BLK
+5v
CN
12V
Q546,Q548 : BUFFER
Q524,Q539 : BUFFER
Q532 – Q534 : BUFFER
Q530,Q532 : CURRENT TRANSMISSION ACCEPTOR
Q535,Q537,Q538 : BUFFER
U-COM BLOCK (➡SCH-4)
Y
C
+13.5V
GND
AWV1552 only
U13
KM200IA8 CN507
CNR ASSY CN801 (➡SCH-14)
GND
C OUT
GND
C IN
+13.5V
Y
CNR
H BLK
9V
Q515 : +9V RE
H.DRIVE
U-COM BLOCK (➡SCH-4)
Y_CC
AC_CLK
P_GND
V_BLK
H_BLK
CPU_RESET
+12V_STB
+5V STB
(E)SCLK
(E)SDA
RELAY
SCLK
SDATA
CNR
V_MUTE
BLK
OSD_B
OSD_G
OSD_R
CONV_CLK
CONV_MUTE
CONV_DATA
CONV_ENB
L.V.
U6
CN503 KM200IA13
35V A GND NC P GND +12V STB AC CLK RELAY CPU RESET +9V GND GND +13.5V +13.5V
U7
CN502 KM200IA14
-25V P.-25V C GND +25V C GND P.D +39V H BLK HV PARA H DRIVE P KEY ABL VM SIG VM MUTE
J152 DHH05-250-2651
K1
K2
A CONNECTOR ASSY (➡SCH-13)
D508,510-518,520,
D525-530,555,559,
D567-569,572-583

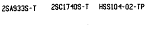
SCH-2 TUNER • VIDEO ASSY (1/4)


▷ : Y-signal route
➡ : C-signal route
▨ : R-Y signal route
▲ : G-Y signal route
△ : B-Y signal route
(R) : R signal route
(G) : G signal route
(B) : B signal route
(H) : H. Deflection signal route
SCH-2
Q516 : I BUFFER
Q518 : Q BUFFER
Q508 – Q512 : PEAK ACL
12V
IC501 : VIDEO CHROMA AND DEFLECTION PROCESSOR
IC501 TA8845BN
ACL(8845)
PEEK ACL OFF(DAC1)
Y(MONI OUT)
ABL
ACL
C IN
I OUT
Q OUT
I IN
Q IN
OSD YS
OSD Ys(BLK)
VM MUTE
V.MUTE
OSD R
OSD G
OSD B
H.DRIVE
SDA
SCL
9V
12V
13.5V
DAC2(R-OFF)
DAC3(G-OFF)
DAC4(B-OFF)
R
G
B
L.W
ZX-009 K501
ZX-009 K505
ZX-009 K506
ZX-009 K507
ZX-009 K508
R. CRT DRIVE ASSY M1 (➡SCH-12)
B. CRT DRIVE ASSY P1 (➡SCH-12)
G. CRT DRIVE ASSY N1 (➡SCH-12)
U8
CN501 KM250MA9R
R OUT
GND
13.5V
G OUT
B OUT
Q515 : +9V REGULATOR
Q513,Q519,Q520,Q523 : LINEAR WHITE
RGB OUTPUT STAGE
MTZJ15

8,510-518,520,521,
5-530,555,559,562-565,
7-569,572-583

IC501 (TA8845BN)

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Voltage (V)	0	0	5.5	7.3	NC	2.4	8.7	2.1	0	5.3	0.7	7.7	1.1	0	4.5	4.5	0	3.5	3.6	3.6	12.3	0	0	0	0	1.7	0	0	4.5	4.5	4.5	1.9
No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Voltage (V)	4.9	5.4	5.4	0.5	8.9	8.9	4.9	6.3	9.1	6.1	9.4	0	0.5	8.9	3.1	12.3	0.5	7.3	4.9	6.4	5.6	3	8.5	4.8	4.8	4.8	4.8	0	2.8	4.5	0	0


2SA933S-T
2SC1740S-T
HSS104-02-TP

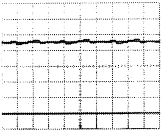
TUNER・VIDEO
ASSY (1/4)

SCH-2

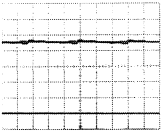
• Waveformes at TUNER•VIDEO ASSY (VIDEO BLOCK)

- Input signal : Color bar
- Picture quality : Standard
- DC range (Unless otherwise noted.)

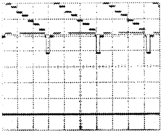
① **Q516 Base**
V range : 0.5V/div.
H range : 20 μsec/div.



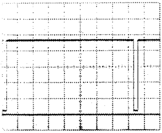
② **Q518 Base**
V range : 0.5V/div.
H range : 20 μsec/div.



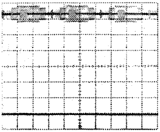
③ **IC501 pin 61**
V range : 0.5V/div.
H range : 20 μsec/div.



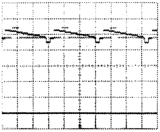
④ **IC501 pin 62**
V range : 1V/div.
H range : 2 μsec/div.



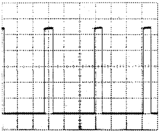
⑤ **IC501 pin 47**
V range : 0.5V/div.
H range : 20 μsec/div.



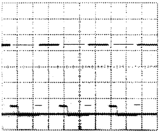
⑥ **IC501 pin 58**
V range : 1V/div.
H range : 20 μsec/div.



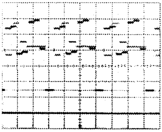
⑦ **D521 Cathode**
V range : 1V/div.
H range : 20 μsec/div.



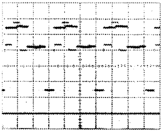
⑧ **D510 Cathode**
V range : 1V/div.
H range : 20 μsec/div.



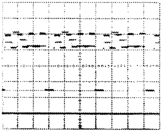
⑨ **Q543 Collector**
V range : 1V/div.
H range : 20 μsec/div.



⑩ **Q544 Collector**
V range : 1V/div.
H range : 20 μsec/div.



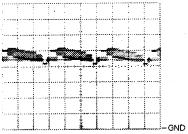
⑪ **Q506 Emitter**
V range : 1V/div.
H range : 20 μsec/div.



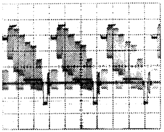
• Waveformes at TUNER•VIDEO ASSY (TUNER BLOCK)

- Input signal : EIA Color bar (87.5% mod., 1kHz ± 25kHz dev.)
- Picture quality : Standard
- DC range (Unless otherwise noted.)

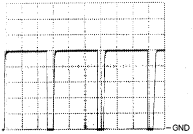
① **TV FRONT END pin 18 (VI)**
V range : 1V/div.
H range : 20 μsec/div.



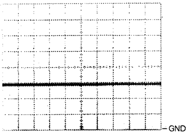
② **C4527 ⊖ side (TV V1)**
V range : 0.2V/div.
H range : 20 μsec/div.



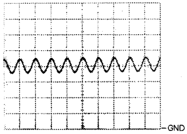
③ **Foot of R4526 (H SYNC1)**
V range : 1V/div.
H range : 20 μsec/div.



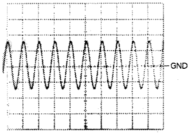
④ **Q4507 Emitter (AFT1)**
V range : 1V/div.
H range : 20 μsec/div.



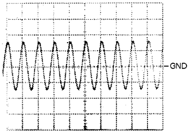
⑤ **TP4501 (MPX)**
V range : 1V/div.
H range : 1msec/div.



⑥ **Q4516 Collector (TV L)**
V range : 0.5V/div.
H range : 1msec/div.



⑦ **Q4517 Collector (TV R)**
V range : 0.5V/div.
H range : 1msec/div.



5.3 TUNER•VIDEO ASSY (2/4)

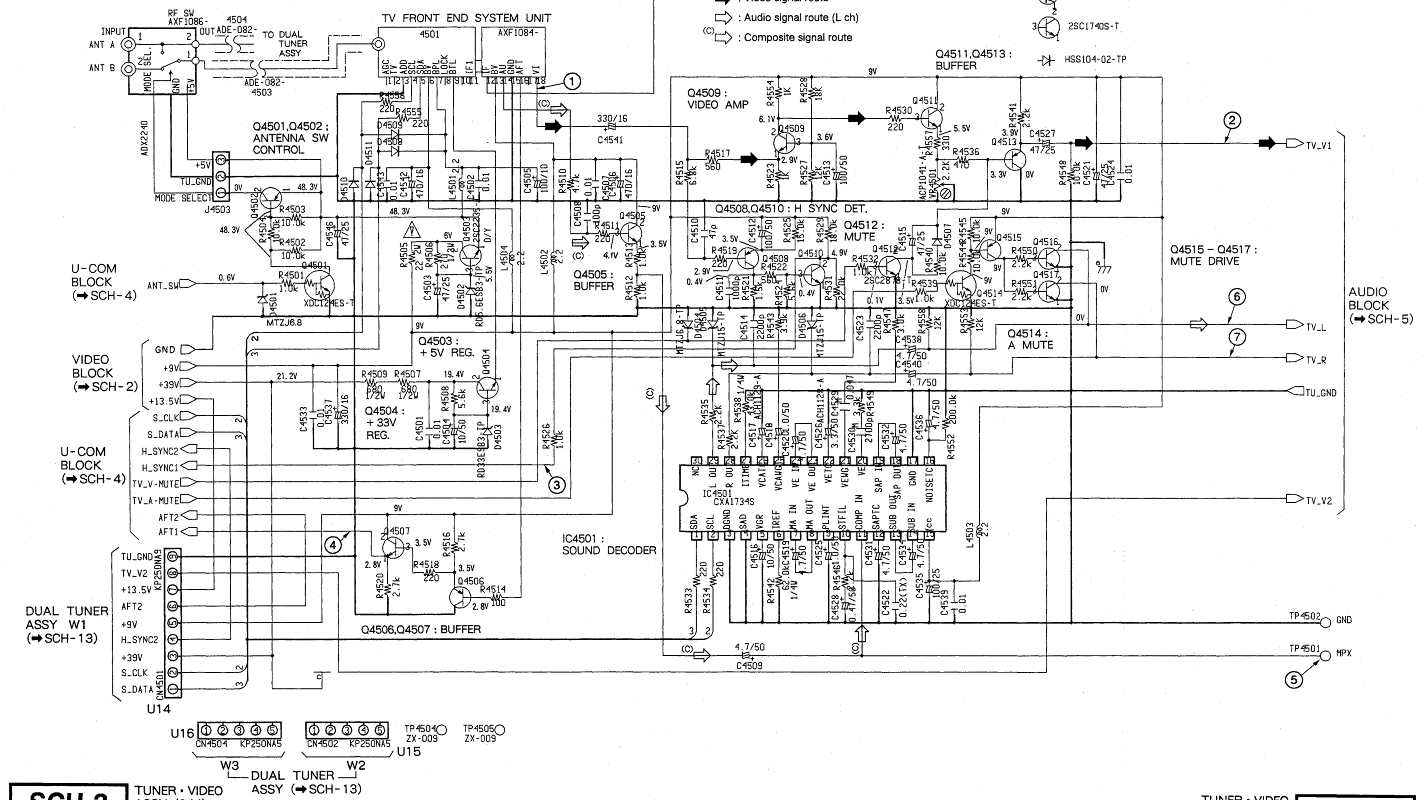
TUNER • VIDEO ASSY (2/4) (AWV1539 : SD-P5191-K AND SD-P4691-K)
(AWV1552 : SD-P5193-K)

• TUNER BLOCK

ANT SW	SELECT
L (0V)	ANT A
H (5V)	ANT B

Voltage of TV FRONT END

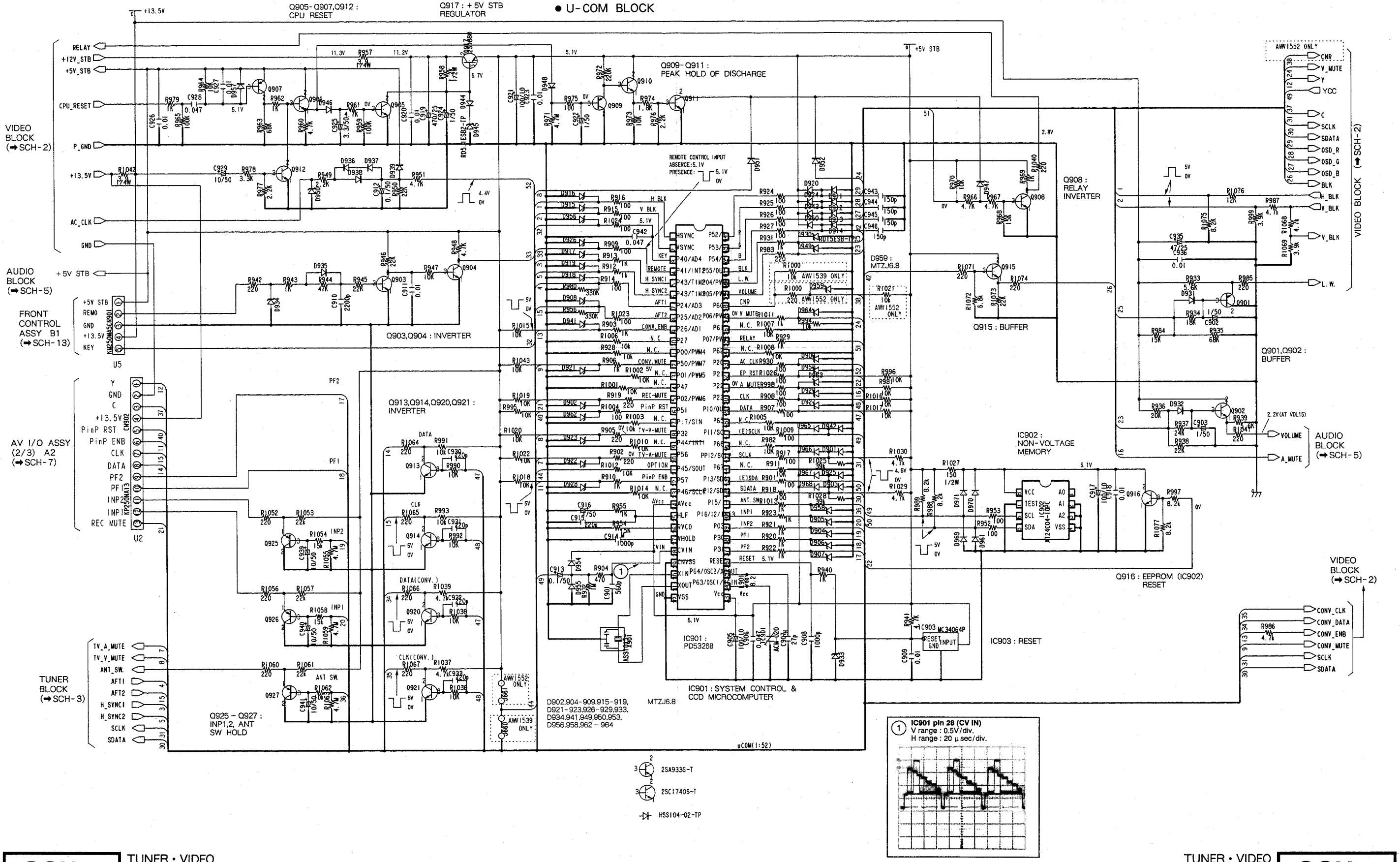
Pin	1	2	3	4	5	6	7	8	9
Voltage (V)	3.93	5.38	0	—	—	8.97	4.83	—	18.8
Pin	10	11	12	13	14	15	16	17	18
Voltage (V)	—	0	0	8.9	4.4	0	2.81	—	4.1


➡ : Video signal route
⇨ : Audio signal route (L ch)
(C)⇨ : Composite signal route
2SA933S-T
2SC1740S-T
HSS104-02-TP
TP4503 IF
RF SW AXF1086-
4504 ADE-082-
TO DUAL TUNER ASSY
ADE-082- 4503
INPUT
ANT A
ANT B
MODE SEL.
GND
+5V
OUT
TV FRONT END SYSTEM UNIT
4501
AXF1084-
AGC TV ADD SCL SDA BV BPL LOCK BTL IF1 IF BV AU GND AFT VI
ADX2240
+5V
TU_GND
MODE SELECT
J4503
Q4501,Q4502 : ANTENNA SW CONTROL
U-COM BLOCK (➡SCH-4)
ANT_SW
MTZJ6.8
XDC124ES-T
VIDEO BLOCK (➡SCH-2)
GND
+9V
+39V
+13.5V
S_CLK
S_DATA
H_SYNC2
H_SYNC1
TV_V-MUTE
TV_A-MUTE
AFT2
AFT1
U-COM BLOCK (➡SCH-4)
Q4503 : +5V REG.
Q4504 : +33V REG.
RD33ESB3-TP
Q4505 : BUFFER
Q4506,Q4507 : BUFFER
DUAL TUNER ASSY W1 (➡SCH-13)
TU_GND
TV_V2
+13.5V
AFT2
+9V
H_SYNC2
+39V
S_CLK
S_DATA
KP250NA9
CN4501
U14
U16
CN4504 KP250NA5
CN4502 KP250NA5
U15
W3
W2
DUAL TUNER ASSY (➡SCH-13)
TP4504 ZX-009
TP4505 ZX-009
Q4509 : VIDEO AMP
Q4511,Q4513 : BUFFER
Q4508,Q4510 : H SYNC DET.
Q4512 : MUTE
2SC2878
Q4514 : A MUTE
Q4515 – Q4517 : MUTE DRIVE
XDC124ES-T
ACP1041-A-T
IC4501 : SOUND DECODER
IC4501 CXA1734S
NC L OUT R OUT ITIME VCAT VCAMC VE IN VE OUT VETC VEWC VE SAP IN SAP OUT GND NOISETC
SDA SCL DGND SAD VGR IREF MA IN MA OUT PLINT STFIL COMP IN SAPTC SUB OUT SUB IN Vcc
C4509 4.7/50
C4541 330/16
TV_V1
TV_L
TV_R
TU_GND
TV_V2
AUDIO BLOCK (➡SCH-5)
TP4502 GND
TP4501 MPX
9V
①
②
③
④
⑤
⑥
⑦

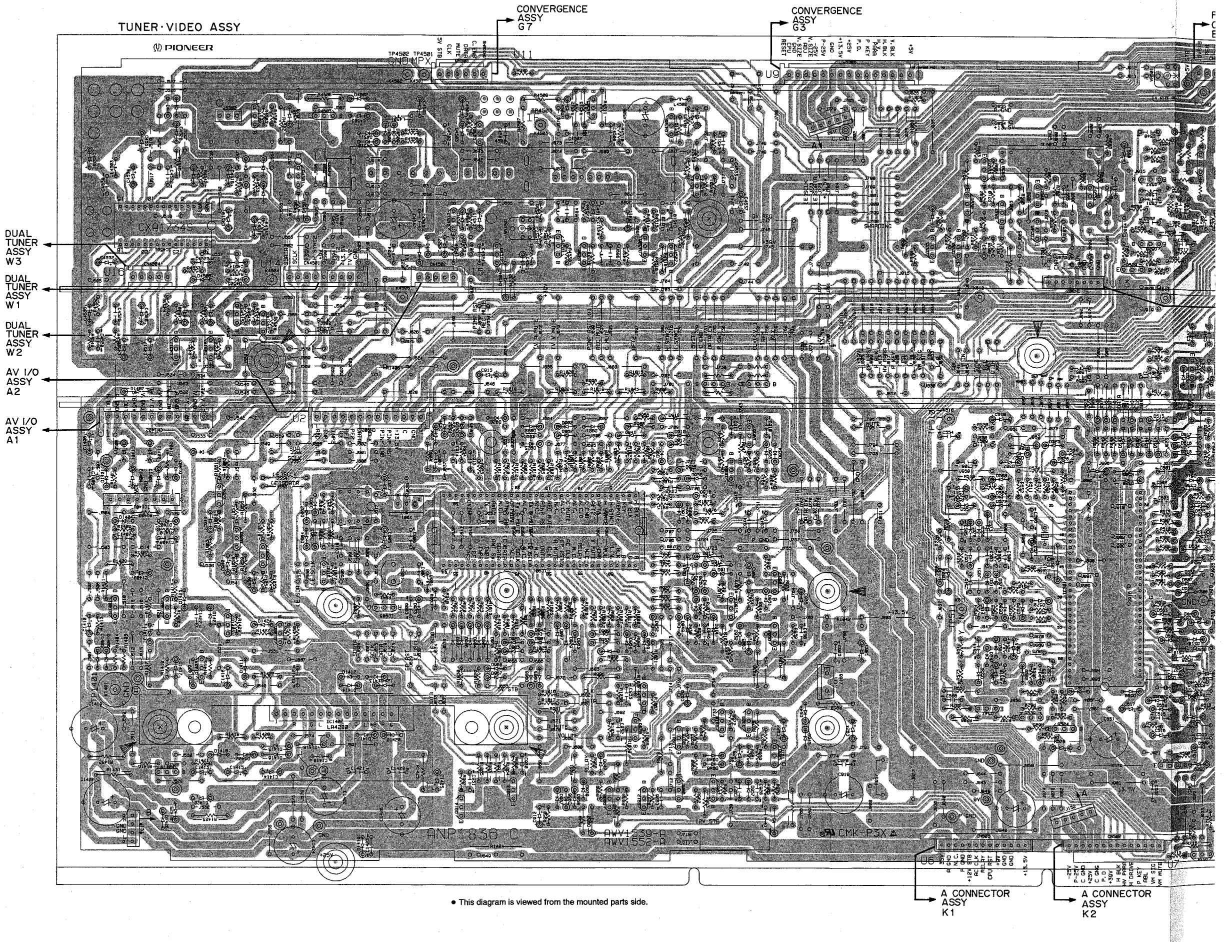
5.4 TUNER•VIDEO ASSY (3/4)

TUNER • VIDEO ASSY (3/4) (AWV1539 : SD-P5191-K AND SD-P4691-K)
(AWV1552 : SD-P5193-K)

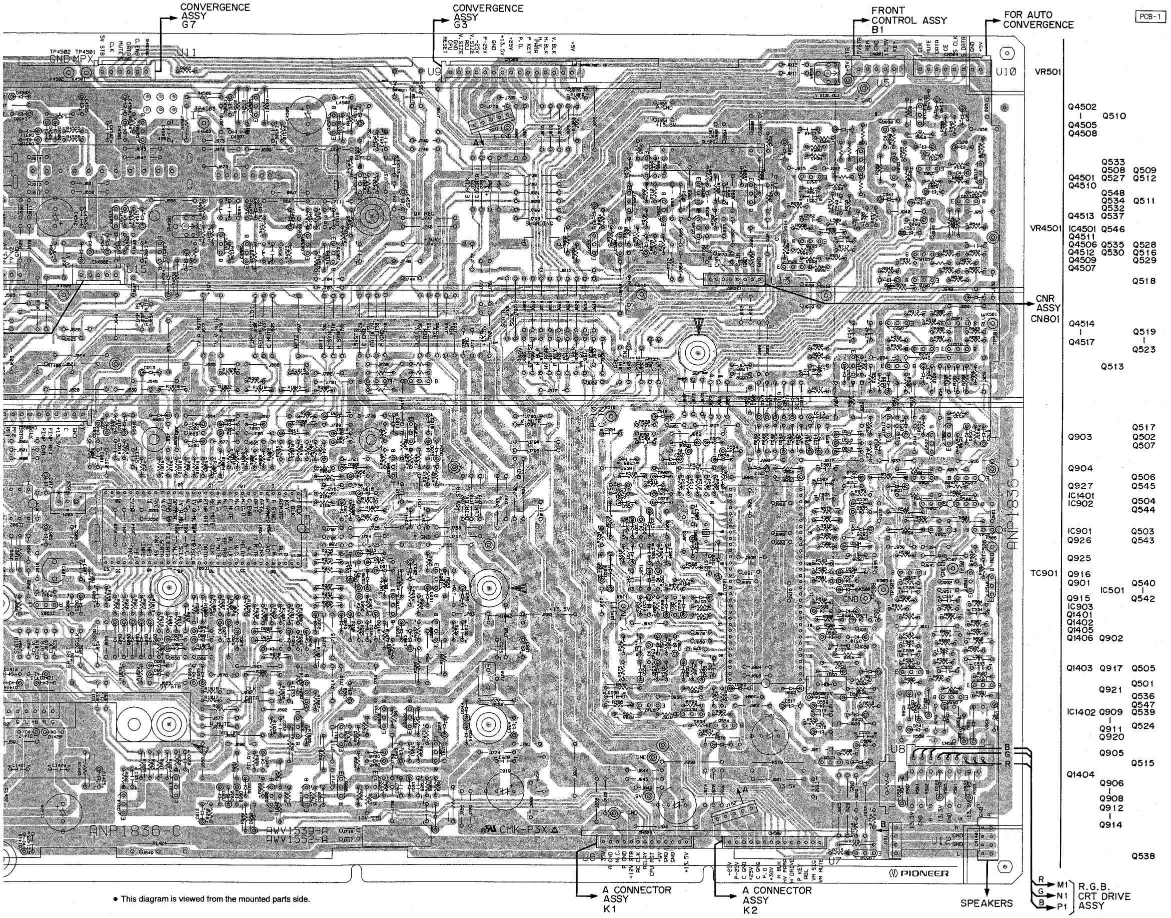
● U-COM BLOCK


+13.5V
Q905-Q907,Q912 : CPU RESET
Q917 : +5V STB REGULATOR
RELAY
+12V_STB
+5V_STB
CPU_RESET
P_GND
+13.5V
AC_CLK
GND
VIDEO BLOCK (➡SCH-2)
AUDIO BLOCK (➡SCH-5)
+5V STB
FRONT CONTROL ASSY B1 (➡SCH-13)
+5V STB
REMO
GND
+13.5V
KEY
CN901
U5
AV I/O ASSY (2/3) A2 (➡SCH-7)
Y
GND
C
+13.5V
PinP RST
PinP ENB
CLK
DATA
PF2
PF1
INP2
INP1
REC MUTE
CN902
U2
TUNER BLOCK (➡SCH-3)
TV_A_MUTE
TV_V_MUTE
ANT_SW.
AFT1
AFT2
H_SYNC1
H_SYNC2
SCLK
SDATA
Q909-Q911 : PEAK HOLD OF DISCHARGE
Q903,Q904 : INVERTER
Q913,Q914,Q920,Q921 : INVERTER
Q925 - Q927 : INP1,2, ANT SW HOLD
REMOTE CONTROL INPUT
ABSENCE:5.1V
PRESENCE: 5.1V 0V
IC901 : PD5326B
IC901 : SYSTEM CONTROL & CCD MICROCOMPUTER
D902,904-909,915-919, D921-923,926-929,933, D934,941,949,950,953, D956,958,962 - 964
MTZJ6.8
D959 : MTZJ6.8
AWV1539 ONLY
AWV1552 ONLY
Q908 : RELAY INVERTER
Q915 : BUFFER
Q901,Q902 : BUFFER
IC902 : NON-VOLTAGE MEMORY
Q916 : EEPROM (IC902) RESET
IC903 : RESET
MK34064P
AT24C04-10PC
AWV1552 ONLY
CNR
V_MUTE
Y
YCC
C
SCLK
SDATA
OSD_R
OSD_G
OSD_B
BLK
H_BLK
V_BLK
V_BLK
L.W.
VIDEO BLOCK (➡SCH-2)
VOLUME
A_MUTE
AUDIO BLOCK (➡SCH-5)
2.2V(AT VOL15)
VIDEO BLOCK (➡SCH-2)
CONV_CLK
CONV_DATA
CONV_ENB
CONV_MUTE
SCLK
SDATA
uCOM(1:52)
2SA933S-T
2SC1740S-T
HSS104-02-TP
① IC901 pin 28 (CV IN)
V range : 0.5V/div.
H range : 20 μ sec/div.

TUNER·VIDEO ASSY

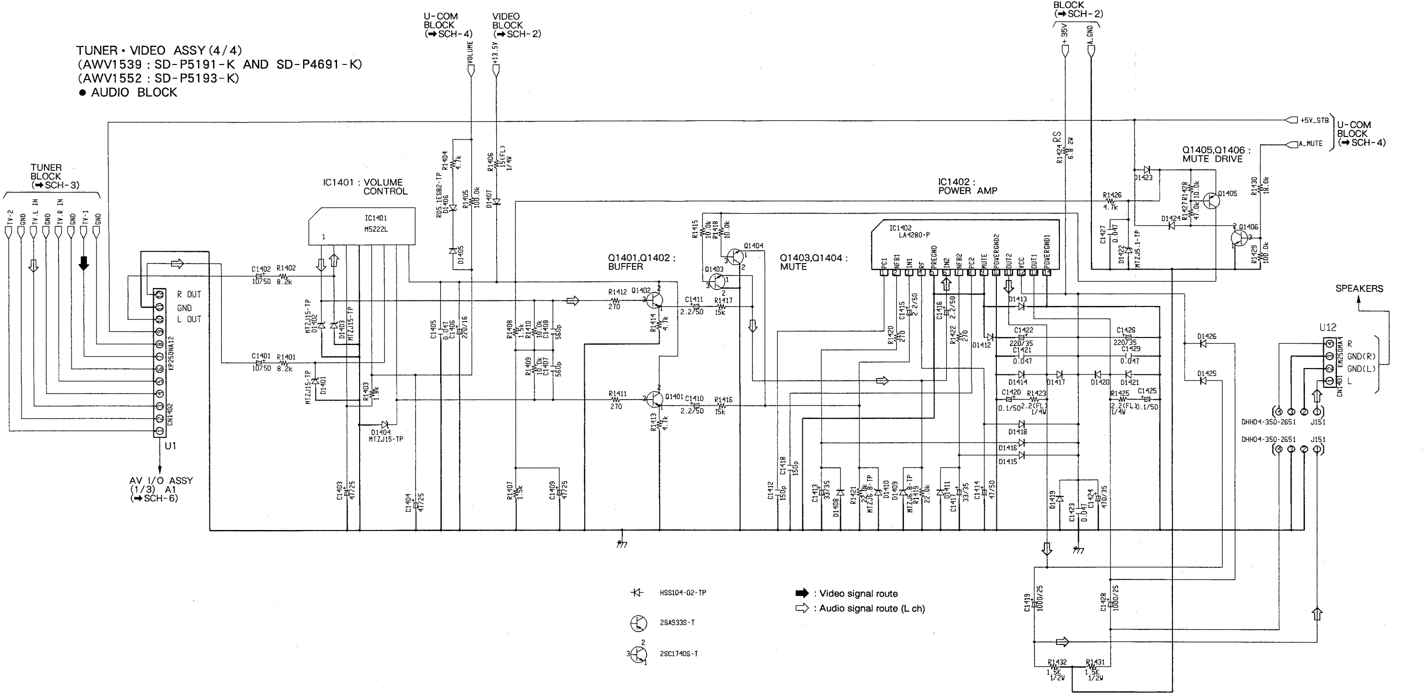

PIONEER
CONVERGENCE ASSY G7
CONVERGENCE ASSY G3
TP4502 TP4501
GND MPX
5V STB
CLK
MUTE
DATA
C.ENB
U11
U9
RESET
CPU GND
V.SIZE ADJ
V.SIZE
-25V
P-25V
GND
+13.5V
+25V
P.D.
P KEY
H.V. PARA
H.BLK
V.BLK
+5V
DUAL TUNER ASSY W3
DUAL TUNER ASSY W1
DUAL TUNER ASSY W2
AV I/O ASSY A2
AV I/O ASSY A1
CXA1734S
U16
U14
U15
U2
IC1402 LA4280
ANP1836-C
AWV1530-A
AWV1552-A
CMK-P3X
CN505
CN502
U6
35V
A GND
N.C.
P GND
+12V STB
RC CLK
RELAY
CPU RST
+9V
GND
GND
+13.5V
-25V
P-25V
C GND
+25V
C GNG
P.D
+39V
H BLK
HV PARA
H DRIVE
P KEY
ABL
VM SIG
VM MUTE
U7
A CONNECTOR ASSY K1
A CONNECTOR ASSY K2

- This diagram is viewed from the mounted parts side.


PCB-1
CONVERGENCE ASSY G7
CONVERGENCE ASSY G3
FRONT CONTROL ASSY B1
FOR AUTO CONVERGENCE
U11
U9
U5
U10
U13
U8
U6
U7
U12
CNR ASSY CN801
A CONNECTOR ASSY K1
A CONNECTOR ASSY K2
SPEAKERS
R.G.B. CRT DRIVE ASSY
M1
N1
P1
R
G
B
ANP1836-C
AWV1539-A
AWV1552-A
CMK-P3X
PIONEER
GND MPX
TP4502
TP4501
VR501
Q4502
Q4505
Q4508
Q510
Q533
Q508
Q509
Q4501
Q527
Q512
Q4510
Q548
Q534
Q511
Q532
Q4513
Q537
VR4501
IC4501
Q546
Q4511
Q4506
Q535
Q528
Q4512
Q530
Q516
Q4509
Q529
Q4507
Q518
Q4514
Q519
Q4517
Q523
Q513
Q517
Q903
Q502
Q507
Q904
Q506
Q927
Q545
IC1401
IC902
Q504
Q544
IC901
Q503
Q926
Q543
Q925
TC901
Q916
Q901
Q540
IC501
Q915
Q542
IC903
Q1401
Q1402
Q1405
Q1406
Q902
Q1403
Q917
Q505
Q921
Q501
Q536
Q547
IC1402
Q909
Q539
Q911
Q524
Q920
Q905
Q515
Q1404
Q906
Q908
Q912
Q914
Q538

- This diagram is viewed from the mounted parts side.

5.5 TUNER•VIDEO ASSY (4/4)


SCH-5
TUNER • VIDEO ASSY (4/4)
(AWV1539 : SD-P5191-K AND SD-P4691-K)
(AWV1552 : SD-P5193-K)
● AUDIO BLOCK
U-COM BLOCK (➡SCH-4)
VIDEO BLOCK (➡SCH-2)
VOLUME
+13.5V
VIDEO BLOCK (➡SCH-2)
+35V
A_GND
+5V_STB
A_MUTE
U-COM BLOCK (➡SCH-4)
TUNER BLOCK (➡SCH-3)
TV-2
GND
TV.L IN
GND
TV.R IN
GND
TV-1
GND
R OUT
GND
L OUT
KP250NA12
CN1402
U1
AV I/O ASSY (1/3) A1 (➡SCH-6)
IC1401 : VOLUME CONTROL
IC1401
M5222L
C1402 10/50
R1402 8.2k
C1401 10/50
R1401 8.2k
MTZJ15-TP
D1402
D1403
D1401
D1404
R1403 1.0k
C1403 47/25
C1404 47/25
RD5.1ESB2-TP
D1406
D1405
R1404 4.7k
R1405 100.0k
R1406 15(FL) 1/4W
D1407
C1405 0.047
C1406 220/16
R1408 1.5k
R1410 10.0k
C1408 560p
R1409 10.0k
C1407 560p
R1407 1.5k
C1409 47/25
Q1401,Q1402 : BUFFER
R1412 270
Q1402
R1414 4.7k
R1411 270
Q1401
R1413 4.7k
C1411 2.2/50
R1417 15k
C1410 2.2/50
R1416 15k
R1415 10.0k
R1418 10.0k
Q1403
Q1404
Q1403,Q1404 : MUTE
IC1402 : POWER AMP
IC1402
LA4280-P
PC1
NFB1
IN1
RF
PREGND
IN2
NFB2
PC2
MUTE
POWERGND2
OUT2
VCC
OUT1
POWERGND1
R1420 270
C1415 2.2/50
C1416 2.2/50
R1422 270
C1412 150p
C1418 150p
C1413 33/35
D1408
R1421 22.0k
MTZJ6.8-TP
D1410
D1409
R1419 22.0k
D1411
C1417 33/35
C1414 47/50
D1412
D1413
C1422 220/35
C1421 0.047
D1414
C1420 0.1/50
R1423 2.2(FL) 1/4W
D1417
D1418
D1416
D1415
D1419
C1423 0.047
C1424 470/35
C1426 220/35
C1429 0.047
D1420
D1421
R1425 2.2(FL) 1/4W
C1425 0.1/50
R1424 RS 6.8 2W
Q1405,Q1406 : MUTE DRIVE
D1423
R1426 4.7k
C1427 0.047
D1422
MTZJ5.1-TP
R1427 47.0k
R1428 10.0k
D1424
Q1405
Q1406
R1430 18.0k
R1429 100.0k
D1426
D1425
SPEAKERS
U12
CN1401 KM250MA4
R
GND(R)
GND(L)
L
DHH04-350-2651
J151
C1419 1000/25
C1428 1000/25
R1432 1.5k 1/2W
R1431 1.5k 1/2W
HSS104-02-TP
2SA933S-T
2SC1740S-T
➡ : Video signal route
⇨ : Audio signal route (L ch)

• Voltag

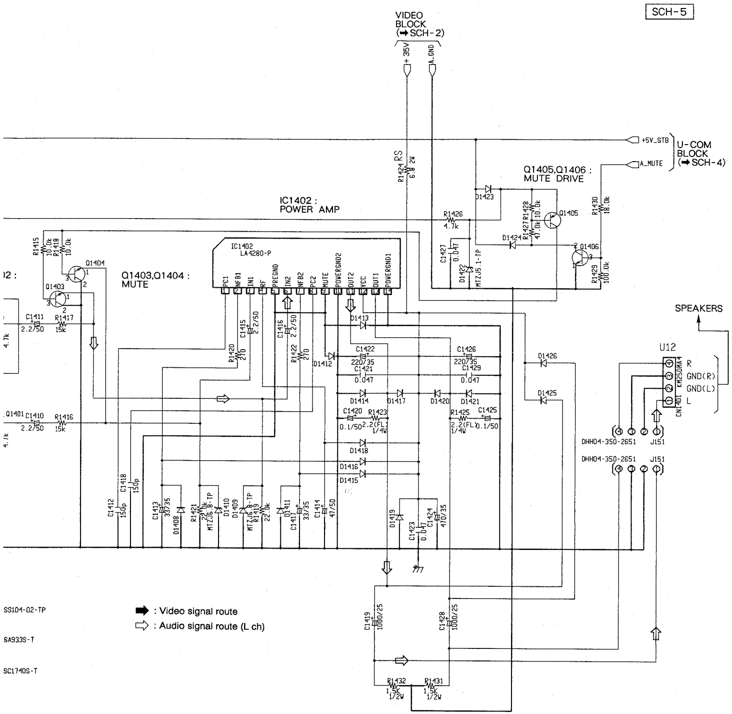
IC1601 (NJ

No.	Vo
1	
2	H:9.
3	
4	H:9.
5	
6	
7	
8	

• Voltag

IC1700 (NJ

No.	Vo
1	
2	H:
3	
4	H:8
5	
6	
7	
8	


SCH-5
VIDEO BLOCK (➡SCH-2)
+35V
A_GND
+5V_STB
A_MUTE
U-COM BLOCK (➡SCH-4)
R1424 RS 6.8 2W
Q1405,Q1406 : MUTE DRIVE
IC1402 : POWER AMP
IC1402 LA4280-P
PC1
NFB1
IN1
RF
PREGND
IN2
NFB2
PC2
MUTE
POWERGND2
OUT2
VCC
OUT1
POWERGND1
Q1403,Q1404 : MUTE
Q1403
Q1404
R1415 10.0k
R1418 10.0k
C1411 2.2/50
R1417 15k
C1410 2.2/50
R1416 15k
R1426 4.7k
C1427 0.047
D1422 MTZJ5.1-TP
D1423
D1424
R1427 47.0k
R1428 10.0k
Q1405
Q1406
R1430 18.0k
R1429 100.0k
SPEAKERS
U12
R
GND(R)
GND(L)
L
CN1401 KM250MA4
D1426
D1425
DHH04-350-2651
J151
D1413
C1422 220/35
C1421 0.047
C1426 220/35
C1429 0.047
D1412
D1414
D1417
D1420
D1421
C1420 0.1/50
R1423 2.2(FL) 1/4W
R1425 2.2(FL) 1/4W
C1425 0.1/50
D1418
D1416
D1415
C1415 2.2/50
C1416 2.2/50
R1420 270
R1422 270
C1412 150p
C1418 150p
C1413 33/35
D1408
R1421 22.0k
MTZJ6.8-TP
D1410
D1409
MTZJ6.8-TP
R1419 22.0k
D1411
C1417
C1414 33/35
47/50
D1419
C1423 0.047
C1424 470/35
C1419 1000/25
C1428 1000/25
R1432 1.5k 1/2W
R1431 1.5k 1/2W
SS104-02-TP
SA933S-T
SC1740S-T
➡ : Video signal route
⇨ : Audio signal route (L ch)

• Voltages of AV I/O ASSY (AV I/O BLOCK)

IC1601 (NJM2246M)

No.	Voltage (V)
1	5
2	H:9.2, L:GND
3	4.9
4	H:9.2, L:GND
5	5
6	11.3
7	5.2
8	GND

IC1602 (NJM2246M)

No.	Voltage (V)
1	5
2	H:7.9, L:GND
3	4.9
4	H:7.9, L:GND
5	5
6	11.3
7	5.2
8	GND

IC1603 (TC4052BF)

No.	Voltage (V)	No.	Voltage (V)
1	5.8	9	H:8.2, L:GND
2	NC	10	H:8.2, L:GND
3	5.8	11	6.7
4	6.7	12	5.7
5	6.7	13	5.7
6	GND	14	6.7
7	GND	15	NC
8	GND	16	11.4

• Voltages of S INPUT ASSY

IC1700 (NJM2234M)

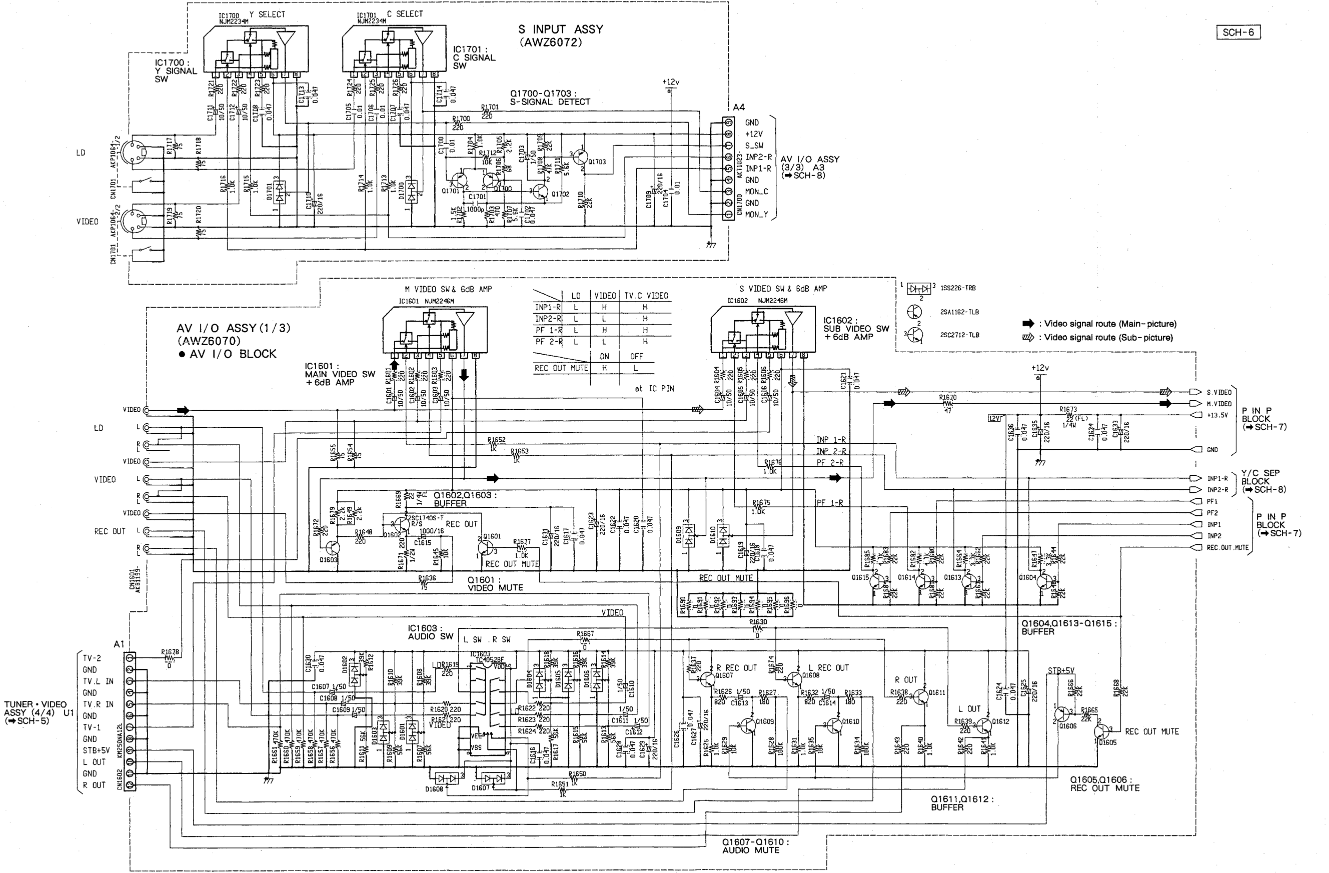
No.	Voltage (V)
1	7.4
2	H: , L:GND
3	7.4
4	H:8, L:GND
5	7.4
6	12
7	6.7
8	GND

IC1701 (NJM2234M)

No.	Voltage (V)
1	7.4
2	H: , L:GND
3	7.4
4	H:8, L:GND
5	7.4
6	12
7	6.7
8	GND

TUNER • VIDEO
ASSY (4/4) **SCH-5**

5.6 AV I/O (1/3) AND S INPUT ASSEMBLIES

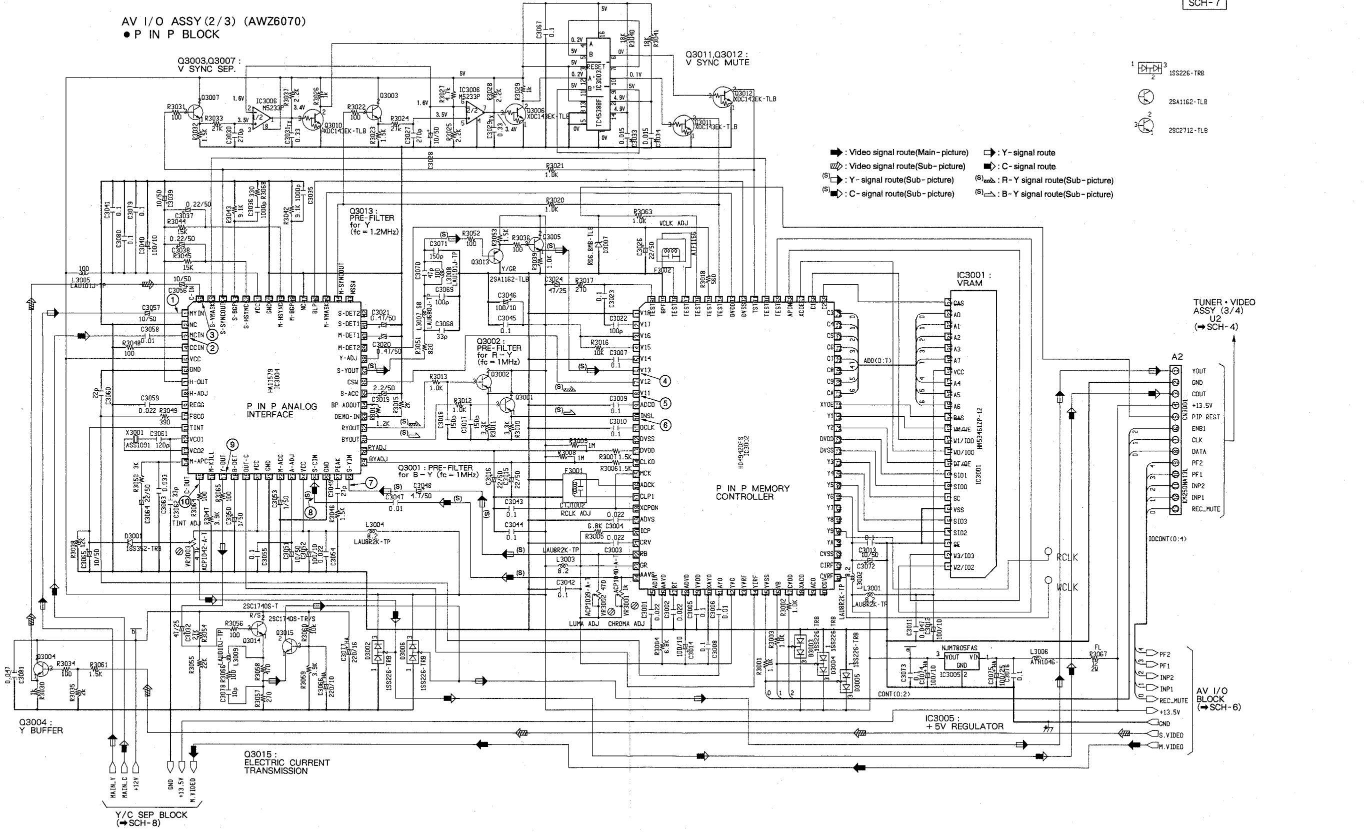

S INPUT ASSY
(AWZ6072)
IC1700 Y SELECT NJM2234M
IC1701 C SELECT NJM2234M
IC1700 : Y SIGNAL SW
IC1701 : C SIGNAL SW
Q1700-Q1703 : S-SIGNAL DETECT
+12V
A4
GND
+12V
S_SW
INP2-R
INP1-R
GND
MON_C
GND
MON_Y
CN1700 AKT1023-
AV I/O ASSY (3/3) A3 (➡SCH-8)
LD
VIDEO
CN1701 AKP1064-1/2
CN1701 AKP1064-2/2
AV I/O ASSY (1/3)
(AWZ6070)
● AV I/O BLOCK
M VIDEO SW & 6dB AMP
IC1601 NJM2246M
IC1601 : MAIN VIDEO SW +6dB AMP
S VIDEO SW & 6dB AMP
IC1602 NJM2246M
IC1602 : SUB VIDEO SW +6dB AMP
1SS226-TRB
2SA1162-TLB
2SC2712-TLB
➡ : Video signal route (Main-picture)
▨ : Video signal route (Sub-picture)
VIDEO
L
R
REC OUT
CN1601 AKB1199-
Q1602,Q1603 : BUFFER
REC OUT
Q1601 : VIDEO MUTE
REC OUT MUTE
INP 1-R
INP 2-R
PF 2-R
PF 1-R
+12V
S.VIDEO
M.VIDEO
+13.5V
GND
P IN P BLOCK (➡SCH-7)
INP1-R
INP2-R
Y/C SEP BLOCK (➡SCH-8)
PF1
PF2
INP1
INP2
REC.OUT.MUTE
P IN P BLOCK (➡SCH-7)
Q1604,Q1613-Q1615 : BUFFER
REC OUT MUTE
VIDEO
A1
TV-2
GND
TV.L IN
GND
TV.R IN
GND
TV-1
GND
STB+5V
L OUT
GND
R OUT
CN1602 KM250NA12L
TUNER・VIDEO ASSY (4/4) U1 (➡SCH-5)
IC1603 : AUDIO SW
L SW . R SW
IC1603 TC4052BF
R REC OUT
L REC OUT
R OUT
L OUT
STB+5V
REC OUT MUTE
Q1605,Q1606 : REC OUT MUTE
Q1611,Q1612 : BUFFER
Q1607-Q1610 : AUDIO MUTE

	LD	VIDEO	TV.C VIDEO
INP1-R	L	H	H
INP2-R	L	L	H
PF 1-R	L	H	H
PF 2-R	L	L	H

	ON	OFF
REC OUT MUTE	H	L

at IC PIN

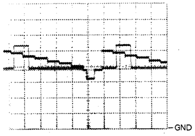
5.7 AV I/O ASSY (2/3)


AV I/O ASSY (2/3) (AWZ6070)
● P IN P BLOCK
IC3003 : TIMING PULSE GENERATOR
TC4538BF
Q3003,Q3007 : V SYNC SEP.
Q3011,Q3012 : V SYNC MUTE
IC3006 M5233P
XDC143EK-TLB
1SS226-TRB
2SA1162-TLB
2SC2712-TLB
➡ : Video signal route(Main-picture)
▨ : Video signal route(Sub-picture)
▷ : Y-signal route
➡ : C-signal route
(S)▷ : Y-signal route(Sub-picture)
(S)➡ : C-signal route(Sub-picture)
(S) : R-Y signal route(Sub-picture)
(S) : B-Y signal route(Sub-picture)
Q3013 : PRE-FILTER for Y (fc = 1.2MHz)
Q3002 : PRE-FILTER for R-Y (fc = 1MHz)
Q3001 : PRE-FILTER for B-Y (fc = 1MHz)
HA11579 IC3001
P IN P ANALOG INTERFACE
HD49420FS IC3002
P IN P MEMORY CONTROLLER
IC3001 : VRAM
HM53461ZP-12
ADD(0:7)
WCLK ADJ
RCLK ADJ
LUMA ADJ
CHROMA ADJ
TINT ADJ
RCLK
WCLK
TUNER • VIDEO ASSY (3/4) U2 (➡SCH-4)
A2
CN3001 KM250NA13L
YOUT
GND
COUT
+13.5V
PIP REST
ENB1
CLK
DATA
PF2
PF1
INP2
INP1
REC_MUTE
IOCONT(0:4)
NJM7805FAS
IC3005 : +5V REGULATOR
CONT(0:2)
AV I/O BLOCK (➡SCH-6)
S.VIDEO
M.VIDEO
Q3004 : Y BUFFER
Q3015 : ELECTRIC CURRENT TRANSMISSION
MAIN.Y
MAIN.C
+12V
GND
+13.5V
M.VIDEO
Y/C SEP BLOCK (➡SCH-8)

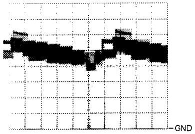
• Waveformes at AV I/O ASSY (PINP BLOCK)

- Input signal : Color bar (LD)
- P IN P : Off
- DC range (Unless otherwise noted.)

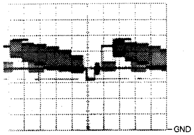
① **IC3004 pin 1(M.Y in)**
V range : 0.5V/div.
H range : 10 μsec/div.



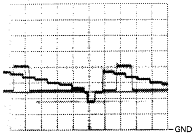
② **IC3004 pin 3(M.C in)**
V range : 0.5V/div.
H range : 10 μsec/div.



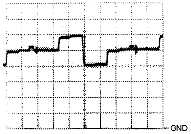
③ **IC3004 pin 56(S.V)**
V range : 0.5V/div.
H range : 10 μsec/div.



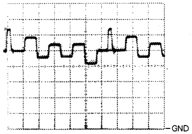
④ **IC3002 pin 6(A.D.Y)**
V range : 1V/div.
H range : 10 μsec/div.



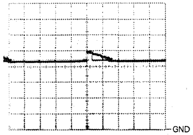
⑤ **IC3002 pin 8(A.D. R-Y)**
V range : 0.5V/div.
H range : 10 μsec/div.



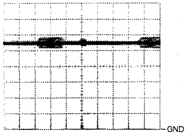
⑥ **IC3002 pin 10(A.D. B-Y)**
V range : 0.5V/div.
H range : 10 μsec/div.



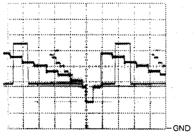
⑦ **IC3004 pin 28(A.D.Y)**
V range : 1V/div.
H range : 10 μssec/div.



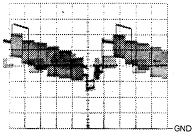
⑧ **IC3004 pin 25(A.D.C)**
V range : 0.5V/div.
H range : 10 μsec/div.



⑨ **IC3004 pin 17(M.Y out)**
V range : 0.5V/div.
H range : 10 μsec/div.



⑩ **IC3004 pin 15(M.C out)**
V range : 0.5V/div.
H range : 10 μsec/div.



• Voltages of AV I/O ASSY (PINP BLOCK)

Input signal : Color bar

IC3004 (HA11579)

No.	Voltage (V)	No.	Voltage (V)
1	2.14	29	2.55
2	0	30	2.53
3	2.47	31	3.16
4	0.02	32	3.14
5	5.01	33	1.54
6	0	34	2.57
7	1.86	35	2.89
8	1.89	36	4.26
9	3.61	37	2.28
10	3.57	38	2.58
11	2.53	39	2.1
12	3.76	40	0.45
13	2.56	41	0.45
14	2.78	42	2.1
15	2.33	43	0.01
16	1.58	44	4.14
17	1.72	45	-
18	2.96	46	0.15
19	0.06(PINP OFF) 0.34 to 0.51 (PINP ON)	47	0
20	4.95	48	0.64
21	0	49	1.59
22	2.72	50	0
23	1.94	51	5
24	4.95	52	1.59
25	2.74	53	0.65
26	0	54	4.14
27	2.33	55	-
28	2.33	56	2.27

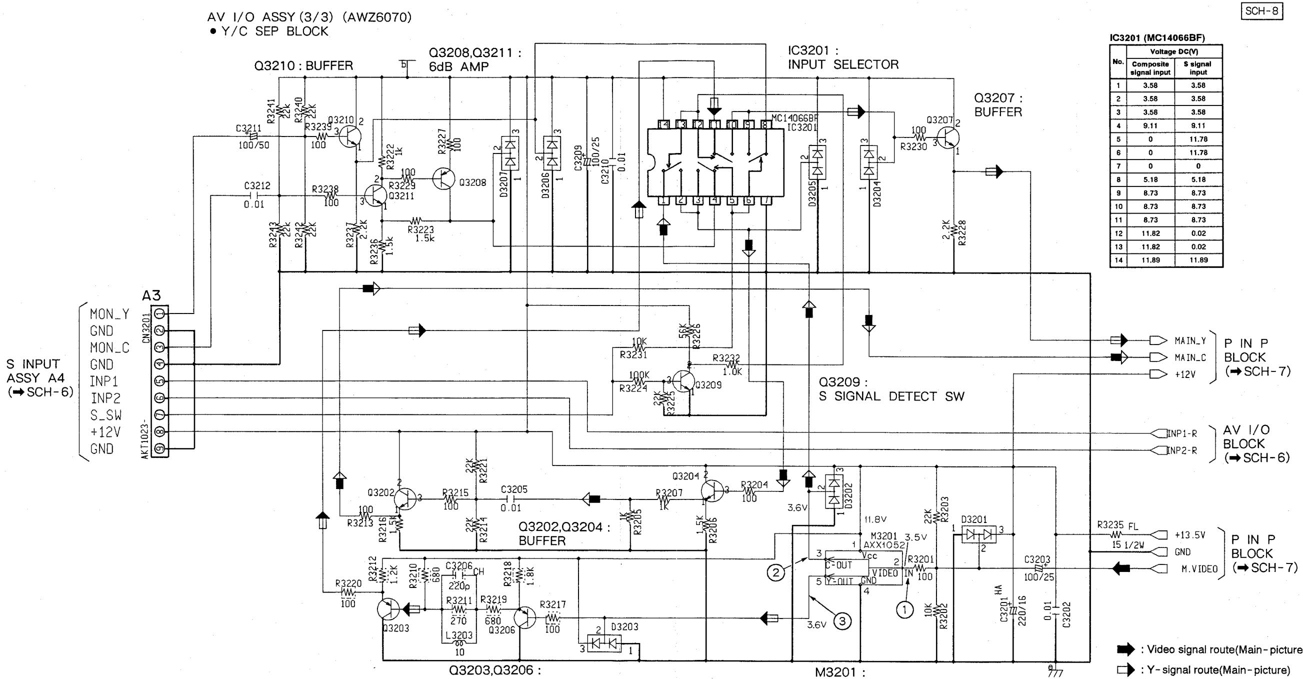
IC3002 (HD49420FS)

No.	Voltage (V)	No.	Voltage (V)
1	0	41	-
2	1.09	42	-
3	5.02	43	-
4	1.47	44	-
5	3.25	45	-
6	2.26	46	-
7	4.27	47	-
8	2.52	48	4.99
9	2.51	49	-
10	2.54	50	-
11	1.77	51	-
12	0	52	-
13	2.52	53	-
14	2.54	54	-
15	5.02	55	-
16	2.37	56	-
17	2.41	57	-
18	5.02	58	-
19	3.57	59	-
20	3.57	60	-
21	2.45	61	-
22	4.37	62	-
23	5	63	-
24	4.73	64	-
25	2.45	65	-
26	3.55	66	-
27	3.54	67	-
28	0	68	-
29	2.2	69	-
30	0	70	-
31	2.29	71	4.1
32	5	72	0.15
33	0.06	73	-
34	0.06(PINP OFF) 0.34 to 0.51 (PINP ON)	74	4.11
35	-	75	2.58
36	-	76	0.02
37	-	77	2.12
38	-	78	2.12
39	-	79	0
40	-	80	1.66

5.8 AV I/O ASSY (3/3)

IC3201 (MC14066BF)

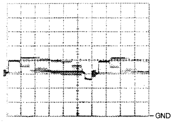
No.	Voltage DC(V)	
	Composite signal input	S signal input
1	3.58	3.58
2	3.58	3.58
3	3.58	3.58
4	9.11	9.11
5	0	11.78
6	0	11.78
7	0	0
8	5.18	5.18
9	8.73	8.73
10	8.73	8.73
11	8.73	8.73
12	11.82	0.02
13	11.82	0.02
14	11.89	11.89


AV I/O ASSY (3/3) (AWZ6070)
• Y/C SEP BLOCK
Q3210 : BUFFER
Q3208,Q3211 : 6dB AMP
IC3201 : INPUT SELECTOR
Q3207 : BUFFER
MC14066BF
IC3201
Q3210
Q3211
Q3208
Q3207
R3241 22k
R3240 22k
R3239 100
C3211 100/50
C3212 0.01
R3238 100
R3243 22k
R3242 22k
R3237 2.2k
R3236 1.5k
R3222 1k
R3229 100
R3227 100
R3223 1.5k
D3207
D3206
C3209 100/25
C3210 0.01
D3205
D3204
R3230 100
R3228 2.2K
A3
CN3201
AKT1023-
MON_Y
GND
MON_C
GND
INP1
INP2
S_SW
+12V
GND
S INPUT ASSY A4 (➡SCH-6)
R3231 10K
R3226 56K
R3232 1.0K
R3224 100K
R3225 22K
Q3209
Q3209 : S SIGNAL DETECT SW
MAIN_Y
MAIN_C
+12V
P IN P BLOCK (➡SCH-7)
INP1-R
INP2-R
AV I/O BLOCK (➡SCH-6)
Q3202
Q3204
R3213 100
R3216 1.5K
R3215 100
C3205 0.01
R3221 22K
R3214 22K
R3205 1K
R3207 1K
R3204 100
R3206 1.5K
Q3202,Q3204 : BUFFER
D3202
3.6V
11.8V
M3201 3.5V
AXX1052
Vcc
C-OUT
VIDEO IN
Y-OUT GND
R3201 100
R3203 22K
D3201
R3202 10K
C3201 220/16 HA
C3203 100/25
C3202 0.01
R3235 FL 15 1/2W
+13.5V
GND
M.VIDEO
P IN P BLOCK (➡SCH-7)
R3220 100
R3212 1.2K
R3210 680
C3206 220p CH
R3218 1.8K
R3211 270
R3219 680
L3203 10
R3217 100
Q3203
Q3206
D3203
Q3203,Q3206 : BUFFER
M3201 : Y/C SEP. MODULE
①
②
③
3.6V

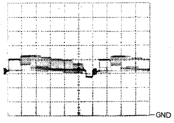
- ➡ : Video signal route(Main-picture)
- ⇨ : Y-signal route(Main-picture)
- ➡ : C-signal route(Main-picture)

- Input signal : Color bar
- Picture quality : Standard
- DC range (Unless otherwise noted.)

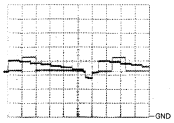
① **M3201 pin 2(VIDEO IN)**
V range : 1V/div.
H range : 10 μsec/div.

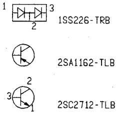


② **M3201 pin 3(C OUT)**
V range : 1V/div.
H range : 10 μsec/div.



③ **M3201 pin 5(Y OUT)**
V range : 1V/div.
H range : 10 μsec/div.

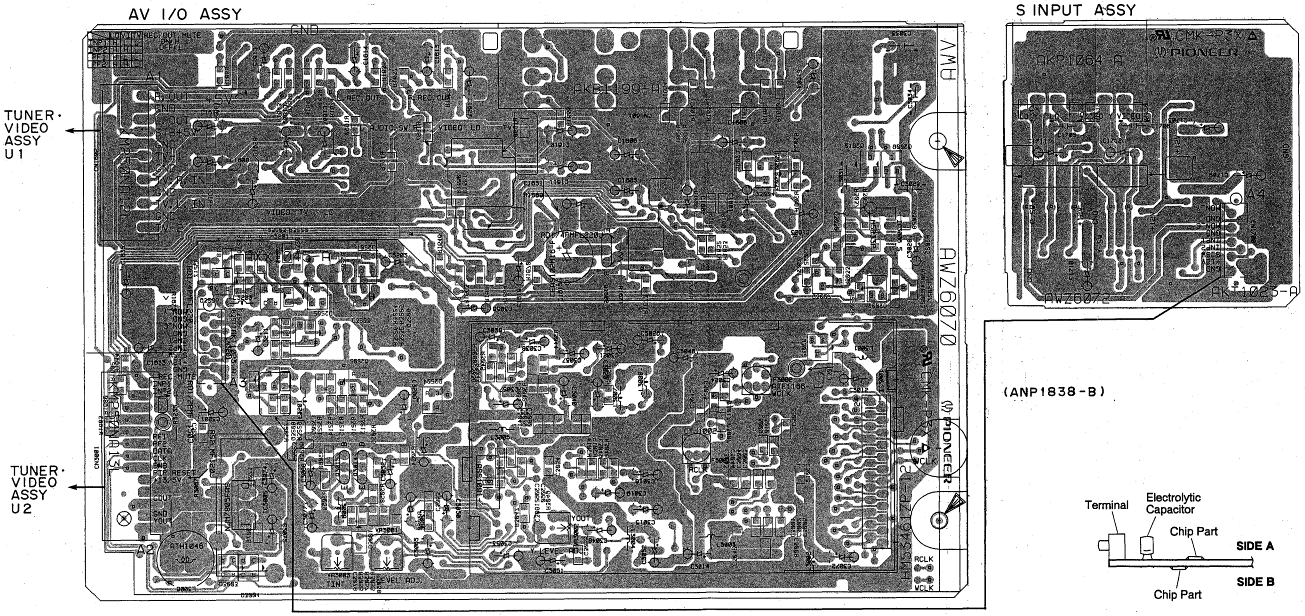



1
3
2
1SS226-TRB
2SA1162-TLB
2
3
1
2SC2712-TLB

SIDE A

- This PCB is double sided.

PCB-2


AV I/O ASSY
S INPUT ASSY
TUNER·VIDEO ASSY U1
TUNER·VIDEO ASSY U2
AWZ6070
AWZ6072
AKP1064-A
AKT1023-A
CMK-P3X
PIONEER
ATH1046
A1
A2
A3
A4
VR3003
TINT
VIDEO LEVEL ADJ.
Y LEVEL ADJ.
RCLK
WCLK
(ANP1838-B)

VR3003 VR3001 VR3002

IC3005 Q3015 Q3014 Q1602 IC3006

IC3001

Q3006 Q3010 Q3007 Q3004

Q3003 Q3012

Q3206 Q3203 Q3209 Q3202

Q3208

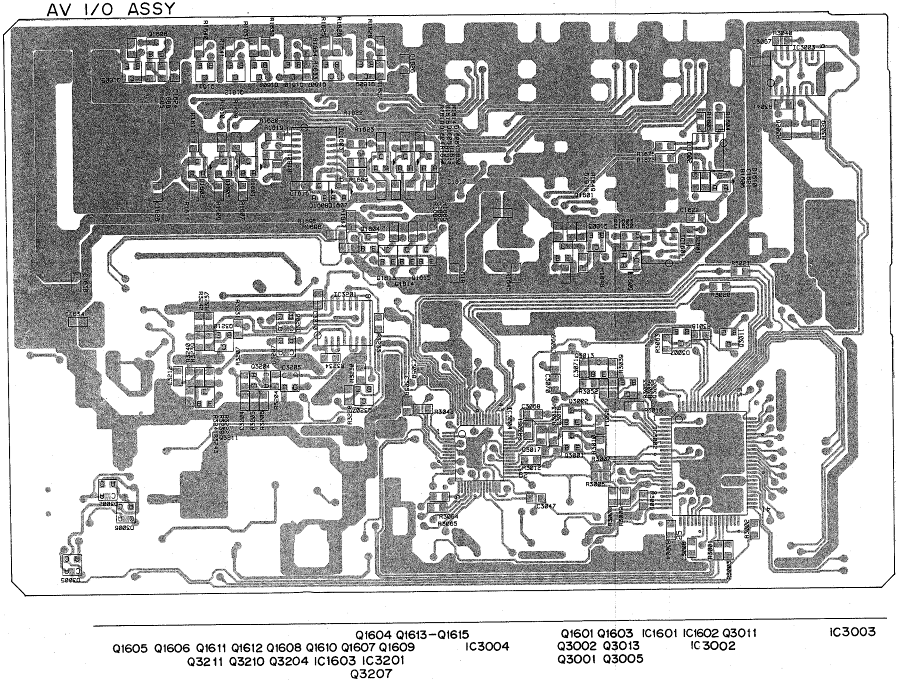
Terminal
Electrolytic Capacitor
Chip Part
SIDE A
SIDE B
Chip Part

SIDE B

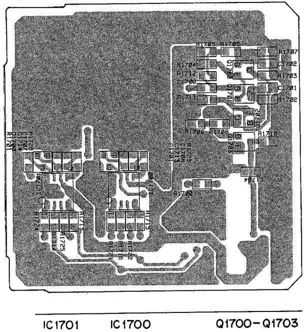
- This PCB is double sided.

PCB – 2

AV I/O ASSY


Q1604 Q1613–Q1615
Q1605 Q1606 Q1611 Q1612 Q1608 Q1610 Q1607 Q1609
Q3211 Q3210 Q3204 IC1603 IC3201
Q3207
IC3004
Q1601 Q1603 IC1601 IC1602 Q3011
Q3002 Q3013
Q3001 Q3005
IC3002
IC3003

S INPUT ASSY

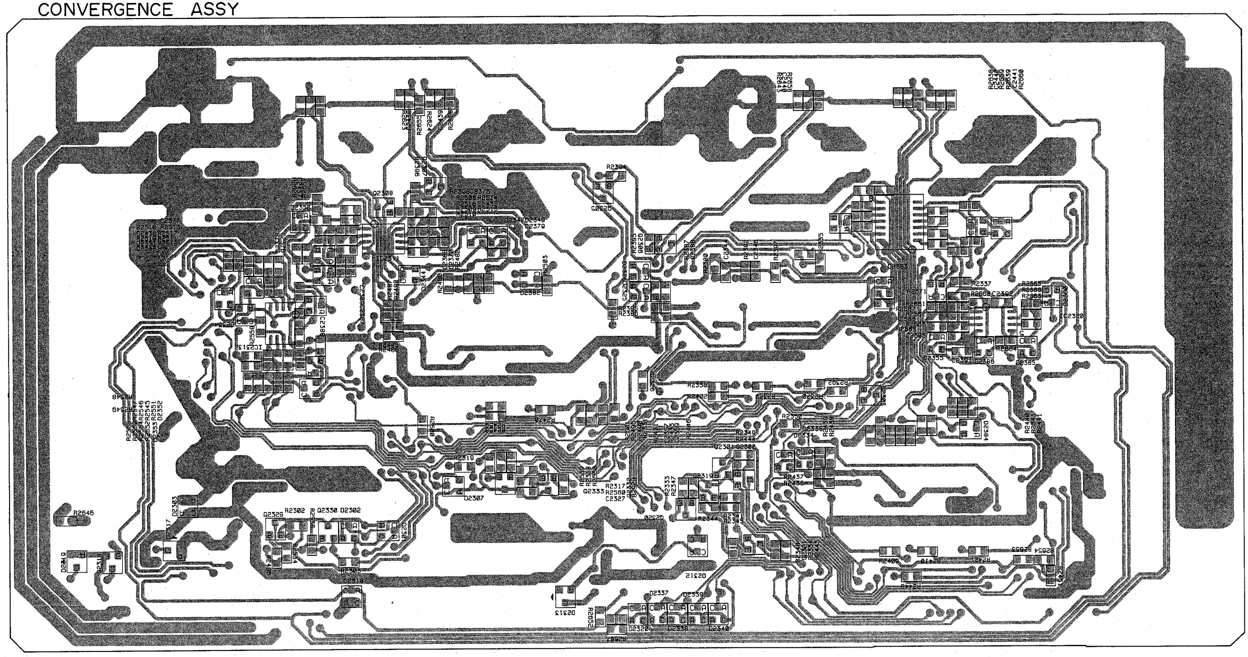

IC1701
IC1700
Q1700–Q1703

PCB – 3

SIDE B

Q2318 Q2329 Q2330 Q2308 Q2307 Q2305 Q2306 Q2301
IC2313 IC2311 Q2333 Q2320 Q2319 Q2302 Q2321 Q2303 IC2320

CONVERGENCE ASSY



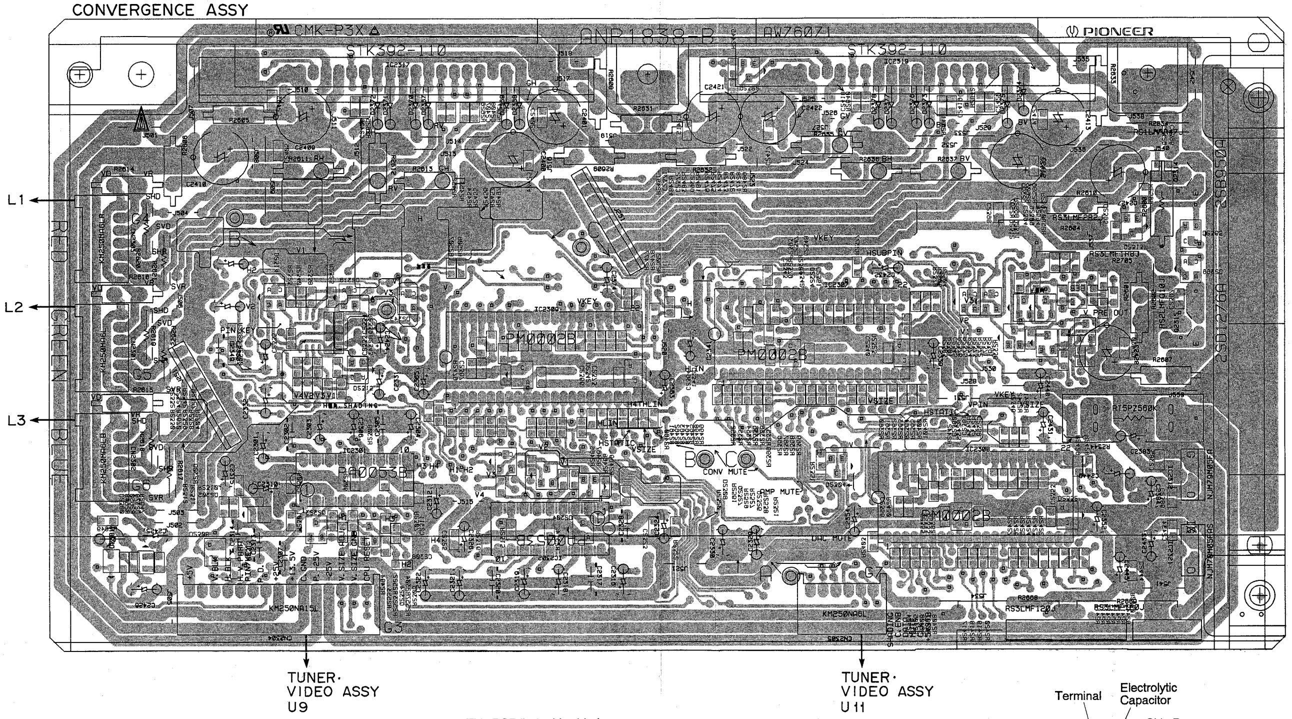
- This PCB is double sided.

5.9 CONVERGENCE ASSY

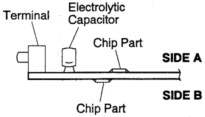
PCB-3

Q2323 Q2324 Q2325 Q2326 Q2327 Q2304 Q2311 Q2309 Q2312 Q2313

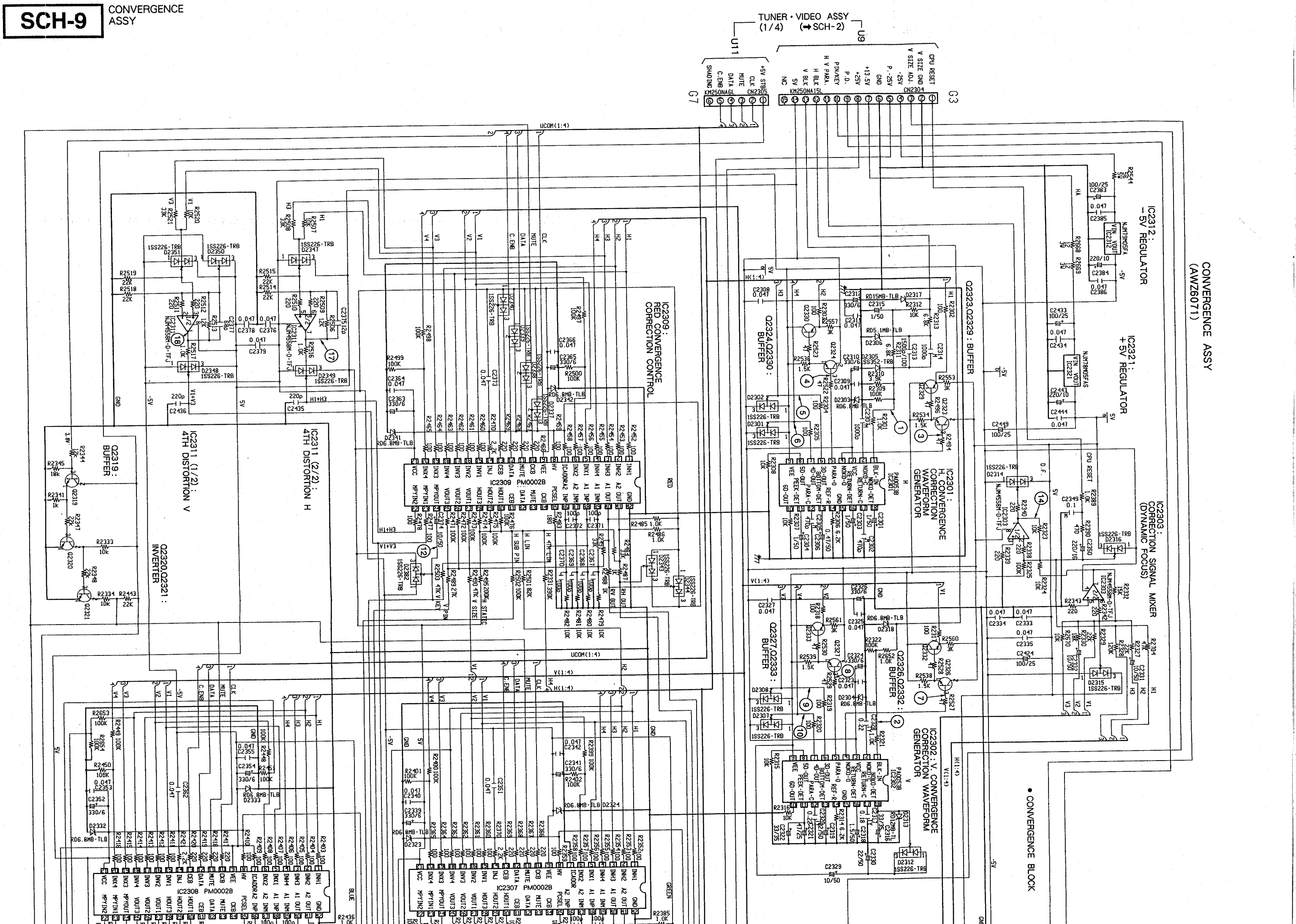
SIDE A IC2301 IC2317 IC2309 IC2302 IC2307 IC2319 IC2308 Q2314 IC2312 Q2315 IC2321

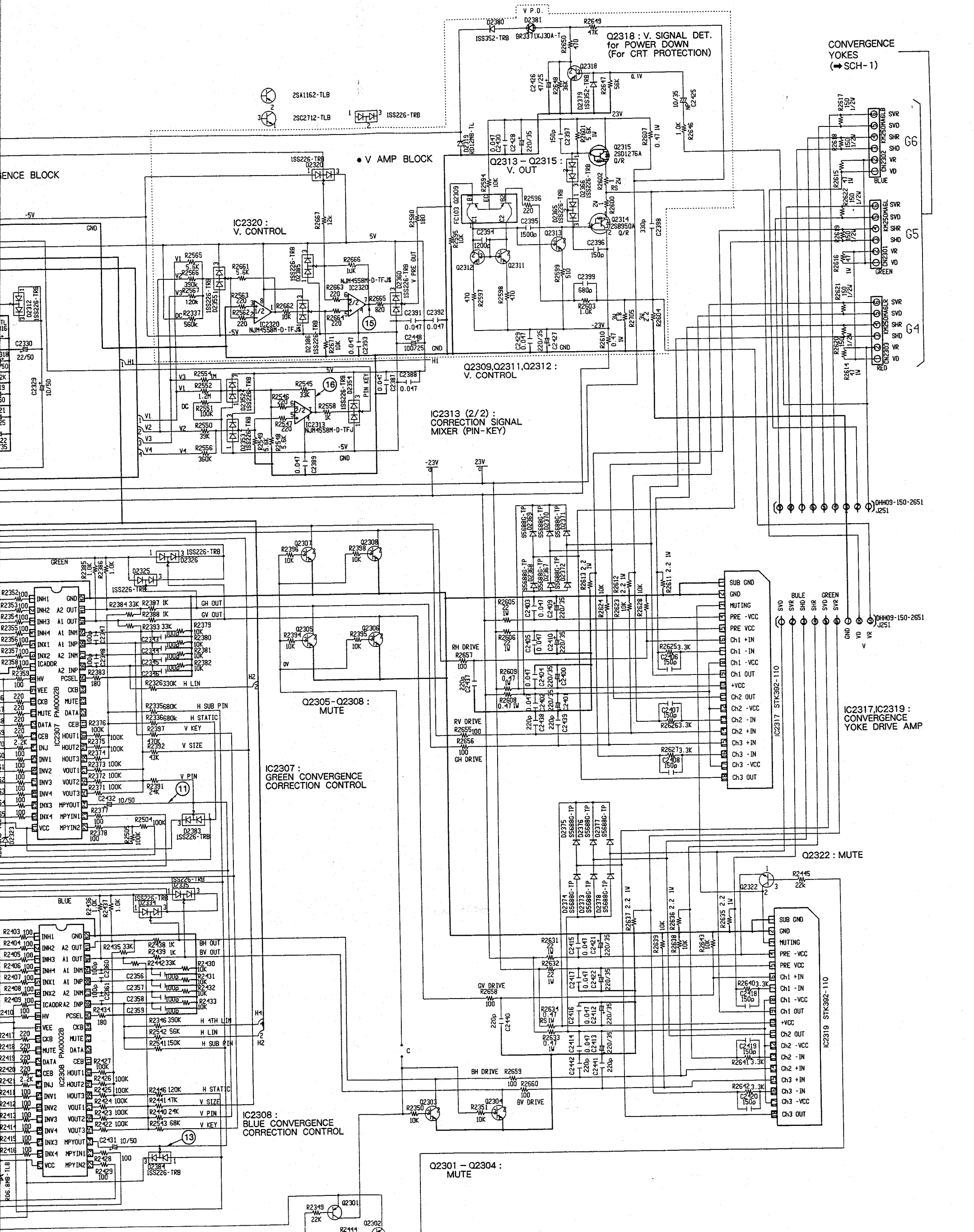

CONVERGENCE ASSY
CMK-P3X
ANP1838-B
AW760?1
STK392-110
STK392-110
PIONEER
RED
GREEN
BLUE
L1
L2
L3
PM0002B
PM0002B
PM0002B
PA0053B
PA0053B
IC2301
IC2308
IC2309
CONV MUTE
AMP MUTE
DAC MUTE
VKEY
VSIZE
HSTATIC
PIN KEY
V PRE OUT
2SB950A
2SD1276A
NJM7805FA
KM250NA6L
KM250NA6L
KM250NA15L
G3
G4
G5
G6
G7
TUNER·
VIDEO ASSY
U9
TUNER·
VIDEO ASSY
U11

- This PCB is double sided.

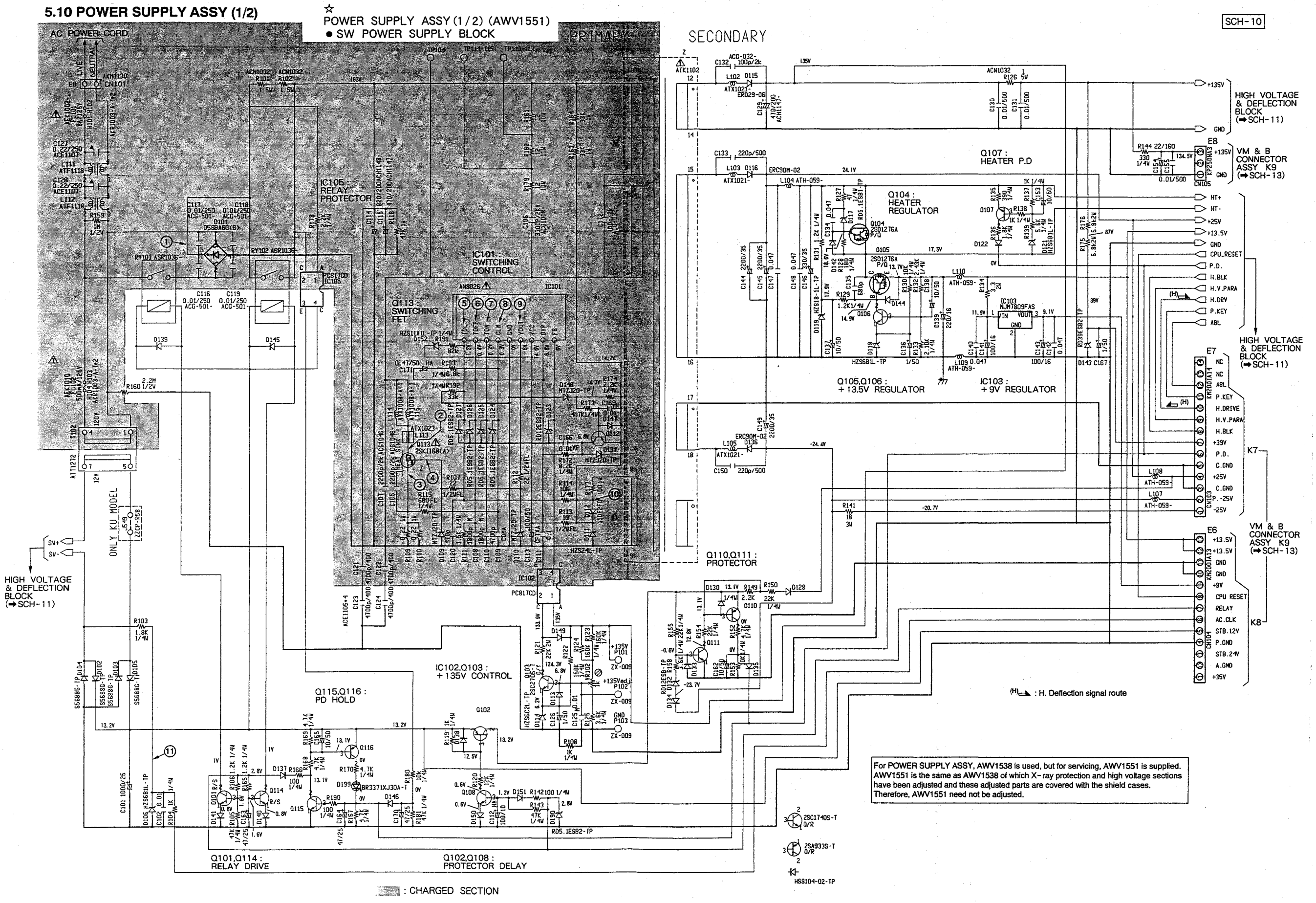

Terminal
Electrolytic Capacitor
Chip Part
SIDE A
SIDE B
Chip Part

SCH-9 CONVERGENCE ASSY


TUNER • VIDEO ASSY (1/4) (→SCH-2)
U11
U9
G7
G3
CN2305
KM250NA6L
CN2304
KM250NA15L
+5V STB
CLK
MUTE
DATA
C.ENB
SHADING
CPU RESET
V SIZE GND
V SIZE ADJ.
-25V
P.-25V
GND
+25V
+13.5V
P.D.
PIN/KEY
H V PARA.
H BLK
V BLK
5V
NC
CONVERGENCE ASSY (AWZ6071)
IC2312: -5V REGULATOR
IC2321: +5V REGULATOR
Q2323,Q2329: BUFFER
Q2324,Q2330: BUFFER
IC2301: H. CONVERGENCE WAVEFORM GENERATOR
IC2303: CORRECTION SIGNAL MIXER (DYNAMIC FOCUS)
Q2327,Q2333: BUFFER
Q2326,Q2332: BUFFER
IC2302: V. CONVERGENCE CORRECTION WAVEFORM GENERATOR
• CONVERGENCE BLOCK
IC2309: RED CONVERGENCE CORRECTION CONTROL
IC2309 PM0002B
RED
IC2311 (1/2): 4TH DISTORTION V
IC2311 (2/2): 4TH DISTORTION H
Q2319: BUFFER
Q2320,Q2321: INVERTER
UCOM(1:4)
V(1:4)
H(1:4)
IC2308 PM0002B
BLUE
IC2307 PM0002B
GREEN

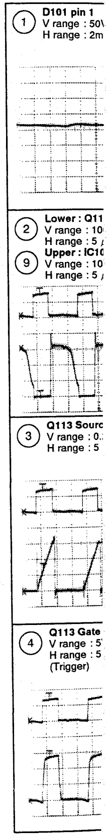

Q2318 : V. SIGNAL DET.
for POWER DOWN
(For CRT PROTECTION)
CONVERGENCE
YOKES
(➡SCH-1)
V P.D.
2SA1162-TLB
2SC2712-TLB
1SS226-TRB
• V AMP BLOCK
ENCE BLOCK
IC2320 :
V. CONTROL
Q2313 – Q2315 :
V. OUT
Q2309,Q2311,Q2312 :
V. CONTROL
IC2313 (2/2) :
CORRECTION SIGNAL
MIXER (PIN-KEY)
Q2305-Q2308 :
MUTE
IC2307 :
GREEN CONVERGENCE
CORRECTION CONTROL
IC2308 :
BLUE CONVERGENCE
CORRECTION CONTROL
Q2301 – Q2304 :
MUTE
Q2322 : MUTE
IC2317,IC2319 :
CONVERGENCE
YOKE DRIVE AMP
IC2317 STK392-110
IC2319 STK392-110
IC2307 PM0002B
IC2308 PM0002B
CN2302 KM250MA6LB
CN2301 KM250MA6L
CN2303 KM250MA6LR
DHH09-150-2651
J251
G4
G5
G6
BLUE
GREEN
RED
BULE
SVR
SVD
SHR
SHD
VR
VD
GND
V
RH DRIVE
RV DRIVE
GH DRIVE
GV DRIVE
BH DRIVE
BV DRIVE
GH OUT
GV OUT
BH OUT
BV OUT
H LIN
H SUB PIN
H STATIC
V KEY
V SIZE
V PIN
H 4TH LIN
PIN KEY
V PRE OUT
-23V
23V
A
B
C
D
E
F
5
6
7
8
9

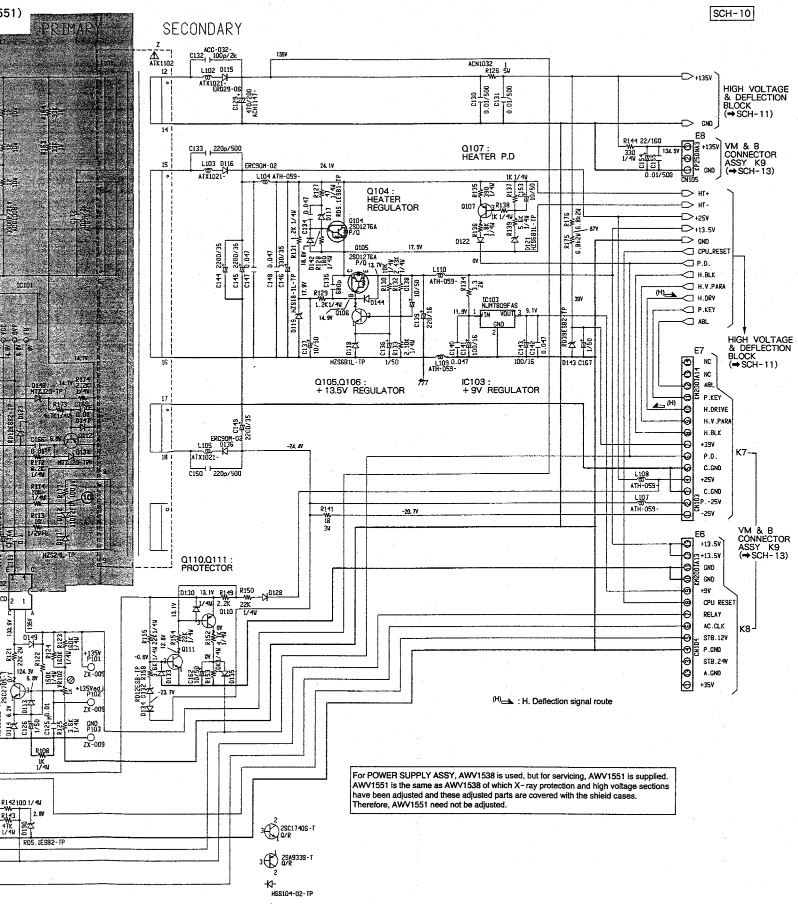
5.10 POWER SUPPLY ASSY (1/2)


☆
POWER SUPPLY ASSY (1/2) (AWV1551)
● SW POWER SUPPLY BLOCK
PRIMARY
SECONDARY
AC POWER CORD
LIVE
NEUTRAL
IC105 : RELAY PROTECTOR
IC101 : SWITCHING CONTROL
Q113 : SWITCHING FET
Q107 : HEATER P.D
Q104 : HEATER REGULATOR
Q105,Q106 : +13.5V REGULATOR
IC103 : +9V REGULATOR
Q110,Q111 : PROTECTOR
IC102,Q103 : +135V CONTROL
Q115,Q116 : PD HOLD
Q101,Q114 : RELAY DRIVE
Q102,Q108 : PROTECTOR DELAY
HIGH VOLTAGE & DEFLECTION BLOCK (➡SCH-11)
VM & B CONNECTOR ASSY K9 (➡SCH-13)
ONLY KU MODEL
E6
E7
E8
K7
K8
+135V
GND
HT+
HT-
+25V
+13.5V
CPU_RESET
P.D.
H.BLK
H.V.PARA
H.DRV
P.KEY
ABL
NC
H.DRIVE
+39V
C.GND
P.-25V
-25V
+9V
CPU RESET
RELAY
AC.CLK
STB.12V
P.GND
STB.24V
A.GND
+35V
(H) : H. Deflection signal route
▒ : CHARGED SECTION

For POWER SUPPLY ASSY, AWV1538 is used, but for servicing, AWV1551 is supplied. AWV1551 is the same as AWV1538 of which X-ray protection and high voltage sections have been adjusted and these adjusted parts are covered with the shield cases. Therefore, AWV1551 need not be adjusted.

- **Waveformes a**
- Input signal : Col
- Picture quality : S
- DC range (Unles



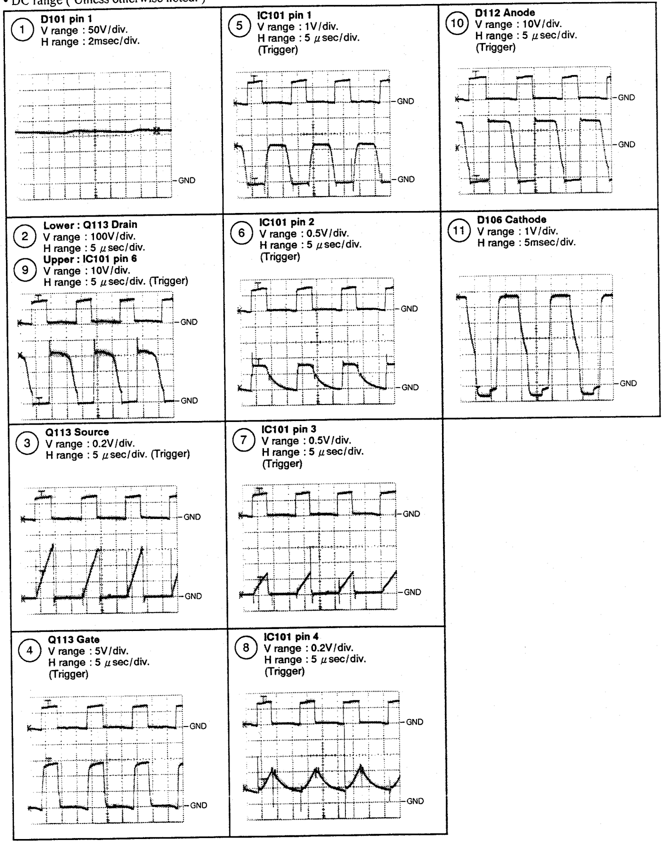

551)
PRIMARY
SECONDARY
SCH-10
ACC-032-
C132 100p/2k
ATK1102
L102 D115
ATX1021-
ER029-06
C129 470/200
ACH1147-
135V
ACN1032
R126 5W
C130 0.01/500
C131 0.01/500
+135V
GND
HIGH VOLTAGE
& DEFLECTION
BLOCK
(➡SCH-11)
E8
R144 22/160
330 1/4W
C154
C155
0.01/500
134.5V
KP250NA3
+135V
GND
CN105
VM & B
CONNECTOR
ASSY K9
(➡SCH-13)
C133 220/500
L103 D116
ATX1021-
ERC90M-02
24.1V
L104 ATH-059-
Q107 :
HEATER P.D
Q104 :
HEATER
REGULATOR
Q104
2SD1276A
P/Q
Q105
2SD1276A
P/Q
Q106
Q107
Q122
R138
1K 1/4W
R135
R136
R137
R139
C153
D121
HZS6B1L-TP
R175
R176
6.8K2W
87V
HT+
HT-
+25V
+13.5V
GND
CPU_RESET
P.D.
H.BLK
H.V.PARA
H.DRV
P.KEY
ABL
17.5V
0V
C144 2200/35
C145 2200/35
C147 0.047
C148 0.047
C146 330/35
D119 HZS18-1L-TP
D142
D118
R129 1.2K1/4W
14.9V
R130
R131
R132
R133
C135 680p
C136
C137 10/50
C138 10/50
C139 220/16
D144
L110 ATH-059-
IC103
NJM7809FAS
VIN VOUT
GND
11.9V
9.1V
C140
C141
C142 100/16
C143
C167 0.047
D143
R039ESB2 TP
39V
HZS6B1L-TP
1/50
L109 0.047
ATH-059-
100/16
Q105,Q106 :
+13.5V REGULATOR
IC103 :
+9V REGULATOR
E7
KM200NA14
NC
NC
ABL
P.KEY
H.DRIVE
H.V.PARA
H.BLK
+39V
P.D.
C.GND
+25V
C.GND
P.-25V
-25V
CN103
K7
HIGH VOLTAGE
& DEFLECTION
BLOCK
(➡SCH-11)
C149 2200/35
ERC90M-02
L105 D136
ATX1021-
-24.4V
C150 220/500
L108 ATH-059-
L107 ATH-059-
R141 18 3W
-20.7V
E6
KM200NA13
+13.5V
+13.5V
GND
GND
+9V
CPU RESET
RELAY
AC.CLK
STB.12V
P.GND
STB.24V
A.GND
+35V
CN104
K8
VM & B
CONNECTOR
ASSY K9
(➡SCH-13)
Q110,Q111 :
PROTECTOR
D130 13.1V
R149 2.2K
R150 22K 1/4W
D128
Q110
Q111
R152
R153
R154
R155
R158
C162 10/50
D133
D134
D135
-0.6V
-23.7V
IC101
D148 HTZJ20-TP
R173
R174
C165
D147
D123
C166
R172
Q112
R114
R113
R117
HZS24L-TP
D149
R121
R123
R124
R102
D113
D114
C125
C126
R125
R108 1K 1/4W
R142 100 1/4W
R143 47K 1/4W
D190
RD5.1ES82-TP
+135V P101 ZX-009
+135Vadj P102 ZX-009
GND P103 ZX-009
2SC2705-T
124.3V
6.8V
2SC1740S-T Q/R
2SA933S-T Q/R
HSS104-02-TP
(H) : H. Deflection signal route

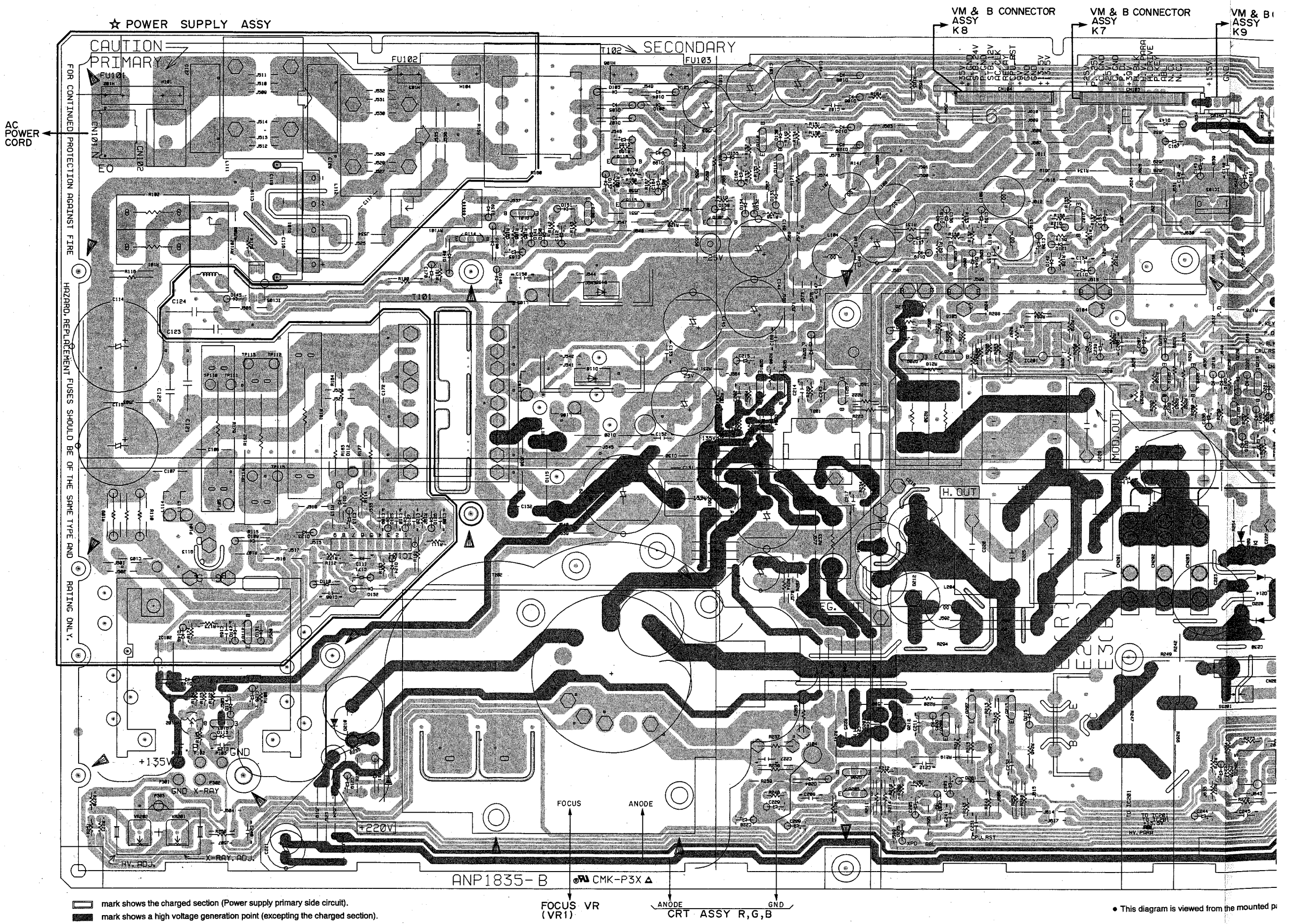
For POWER SUPPLY ASSY, AWV1538 is used, but for servicing, AWV1551 is supplied. AWV1551 is the same as AWV1538 of which X-ray protection and high voltage sections have been adjusted and these adjusted parts are covered with the shield cases. Therefore, AWV1551 need not be adjusted.

POWER SUPPLY
ASSY (1/2) **SCH-10**

• Waveformes at POWER SUPPLY ASSY (SW POWER SUPPLY BLOCK)

- Input signal : Color bar
- Picture quality : Standard
- DC range (Unless otherwise noted.)

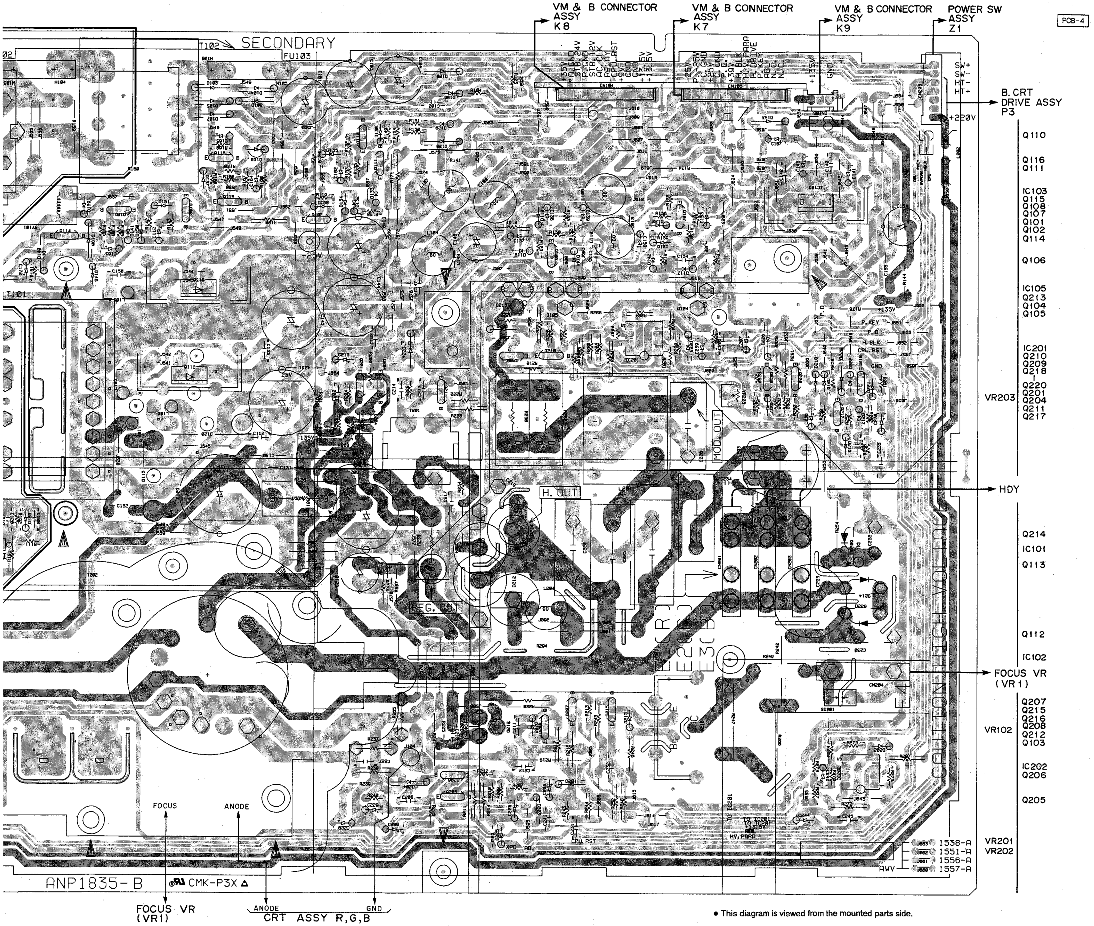



☆ POWER SUPPLY ASSY
CAUTION
PRIMARY
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATING ONLY.
AC POWER CORD
FU101
CN101
CN102
FU102
FU103
T102
SECONDARY
T101
VM & B CONNECTOR ASSY K8
VM & B CONNECTOR ASSY K7
VM & B
ASSY K9
CN104
CN103
H. OUT
MOD. OUT
+135V
GND
GND X-RAY
HV. ADJ.
X-RAY. ADJ.
+220V
FOCUS
ANODE
ANP1835-B
CMK-P3X
FOCUS VR (VR1)
ANODE
GND
CRT ASSY R,G,B

☐ mark shows the charged section (Power supply primary side circuit).

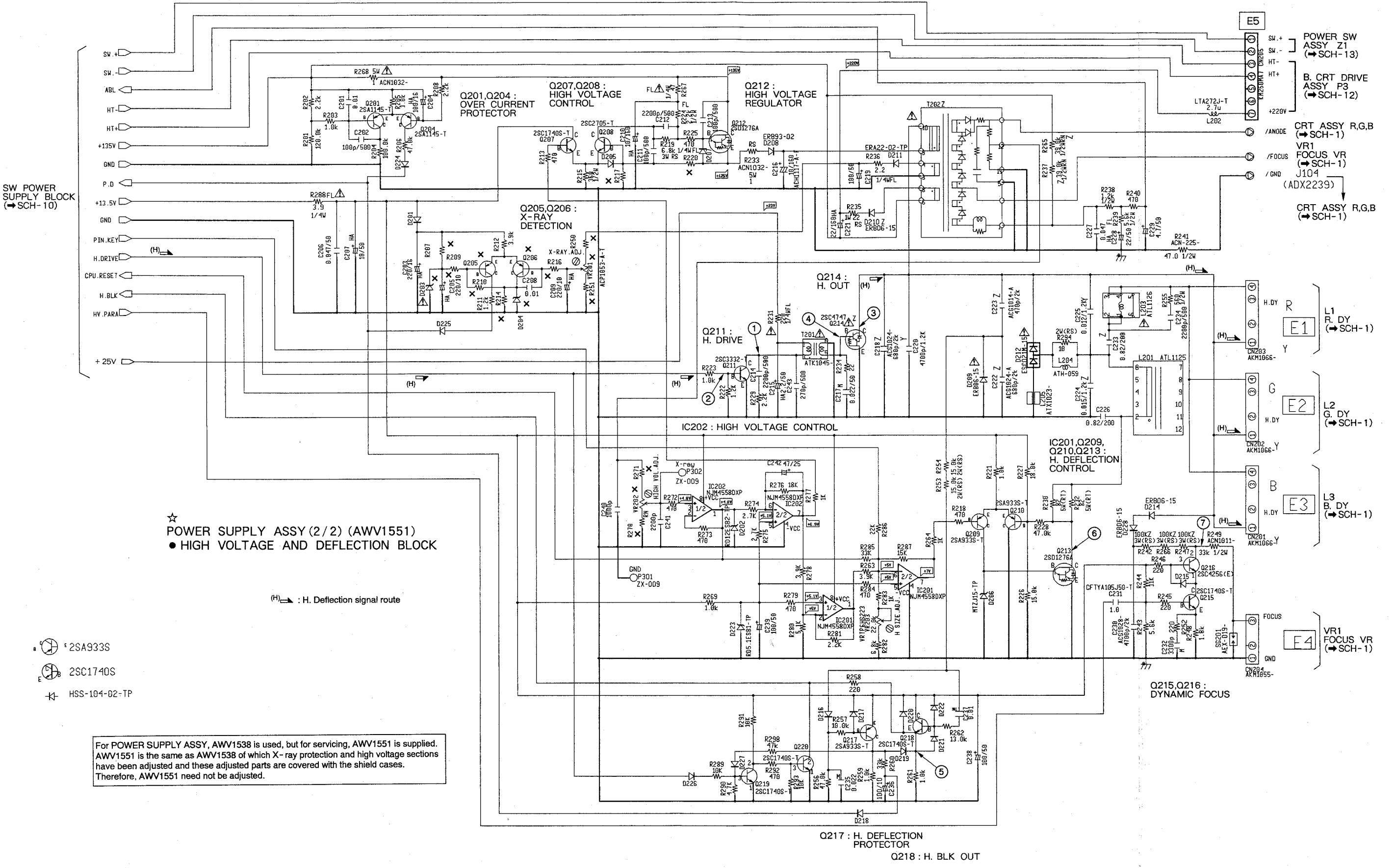
■ mark shows a high voltage generation point (excepting the charged section).

- This diagram is viewed from the mounted p


VM & B CONNECTOR ASSY K8
VM & B CONNECTOR ASSY K7
VM & B CONNECTOR ASSY K9
POWER SW ASSY Z1
SW+
SW-
HT-
HT+
B.CRT DRIVE ASSY P3
+220V
T102
SECONDARY
FU103
T101
-25V
25V
135V
H. OUT
REG. OUT
MOD. OUT
P. KEY
P. O
H. BLK
CPU. RST
GND
+135V
CAUTION HIGH VOLTAGE
HDY
FOCUS VR (VR1)
FOCUS
ANODE
GND
CRT ASSY R,G,B
ANP1835-B
CMK-P3X
HV.PARA
CPU.RST
XPO
ABL
AWV
1538-A
1551-A
1556-A
1557-A
Q110
Q116
Q111
IC103
Q115
Q108
Q107
Q101
Q102
Q114
Q106
IC105
Q213
Q104
Q105
IC201
Q210
Q209
Q218
Q220
Q201
Q204
Q211
Q217
VR203
Q214
IC101
Q113
Q112
IC102
Q207
Q215
Q216
Q208
Q212
Q103
VR102
IC202
Q206
Q205
VR201
VR202

• This diagram is viewed from the mounted parts side.

5.11 POWER SUPPLY ASSY (2/2)

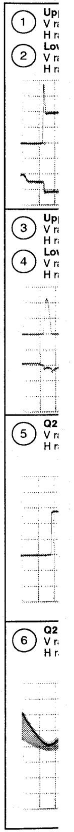

SW POWER SUPPLY BLOCK (➡SCH-10)
SW.+
SW.-
ABL
HT-
HT+
+135V
GND
P.D
+13.5V
GND
PIN.KEY
H.DRIVE
CPU.RESET
H.BLK
HV.PARA
+25V
Q201,Q204 : OVER CURRENT PROTECTOR
Q207,Q208 : HIGH VOLTAGE CONTROL
Q212 : HIGH VOLTAGE REGULATOR
Q205,Q206 : X-RAY DETECTION
Q214 : H. OUT
Q211 : H. DRIVE
IC202 : HIGH VOLTAGE CONTROL
IC201,Q209, Q210,Q213 : H. DEFLECTION CONTROL
Q215,Q216 : DYNAMIC FOCUS
Q217 : H. DEFLECTION PROTECTOR
Q218 : H. BLK OUT
E5
POWER SW ASSY Z1 (➡SCH-13)
B. CRT DRIVE ASSY P3 (➡SCH-12)
CRT ASSY R,G,B (➡SCH-1)
VR1 FOCUS VR (➡SCH-1)
J104 (ADX2239)
CRT ASSY R,G,B (➡SCH-1)
T202Z
LTA272J-T 2.7u L202
E1
L1 R. DY (➡SCH-1)
E2
L2 G. DY (➡SCH-1)
E3
L3 B. DY (➡SCH-1)
E4
VR1 FOCUS VR (➡SCH-1)
CN203 AKM1066-
CN202 AKM1066-
CN201 AKM1066-
CN204 AKM1055-
L201 ATL1125
L203 ATL1126
L204 ATH-059
T201 ATK1045-
X-RAY ADJ.
HIGH VOL.ADJ.
H SIZE ADJ.
P302 ZX-009
P301 ZX-009
2SA933S
2SC1740S
HSS-104-02-TP

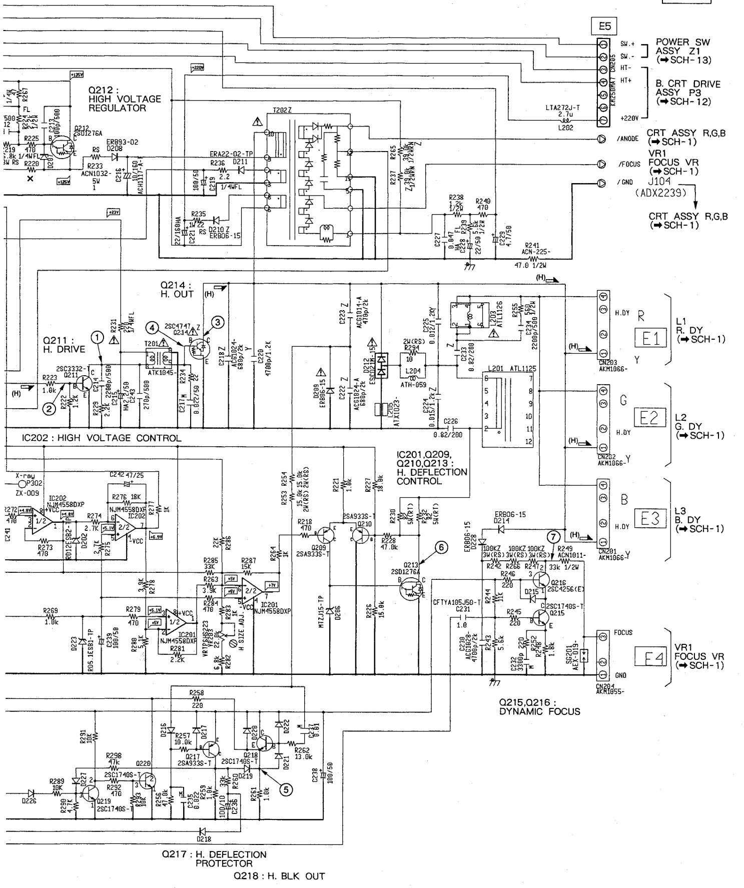
☆
POWER SUPPLY ASSY (2/2) (AWV1551)
● HIGH VOLTAGE AND DEFLECTION BLOCK

(H) : H. Deflection signal route

For POWER SUPPLY ASSY, AWV1538 is used, but for servicing, AWV1551 is supplied. AWV1551 is the same as AWV1538 of which X- ray protection and high voltage sections have been adjusted and these adjusted parts are covered with the shield cases. Therefore, AWV1551 need not be adjusted.

• Wavef
• Input sig
• Picture c
• DC rang




E5
SW.+
SW.-
HT-
HT+
+220V
POWER SW ASSY Z1 (→SCH-13)
B. CRT DRIVE ASSY P3 (→SCH-12)
KM250NA7 CN205
LTA272J-T 2.7u L202
/ANODE
/FOCUS
/GND
CRT ASSY R,G,B (→SCH-1)
VR1 FOCUS VR (→SCH-1)
J104 (ADX2239)
CRT ASSY R,G,B (→SCH-1)
Q212 : HIGH VOLTAGE REGULATOR
T202Z
Q214 : H. OUT
Q211 : H. DRIVE
IC202 : HIGH VOLTAGE CONTROL
IC201,Q209, Q210,Q213 : H. DEFLECTION CONTROL
H.DY R
E1
L1 R. DY (→SCH-1)
CN203 AKM1066-
G
E2
L2 G. DY (→SCH-1)
CN202 AKM1066-
B
E3
L3 B. DY (→SCH-1)
CN201 AKM1066-
FOCUS
GND
E4
VR1 FOCUS VR (→SCH-1)
CN204 AKM1055-
Q215,Q216 : DYNAMIC FOCUS
L201 ATL1125
L203 ATL1126
X-ray P302 ZX-009
IC202 NJM4558DXP
IC201 NJM4558DXP
H SIZE ADJ.
Q217 : H. DEFLECTION PROTECTOR
Q218 : H. BLK OUT
1
2
3
4
5
6
7

POWER SUPPLY ASSY (2/2)

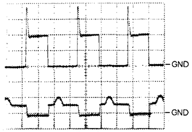
SCH-11

• Waveformes at POWER SUPPLY ASSY (HIGH VOLTAGE AND DEFRECTION BLOCK)

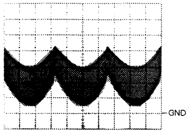
- Input signal : Color bar
- Picture quality : Standard
- DC range (Unless otherwise noted.)

① **Upper : Q211 Collector**
V range : 20V/div.
H range : 20 μsec/div.

② **Lower : Q211 Base**
V range : 1V/div.
H range : 20 μsec/div.

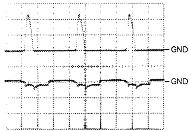


⑦ **Q216 Collector**
V range : 200V/div.
H range : 5msec/div.

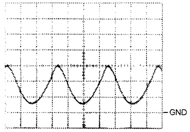


③ **Upper : Q214 Collector**
V range : 500V/div.
H range : 20 μsec/div.

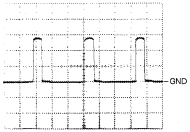
④ **Lower : Q214 Base**
V range : 50V/div.
H range : 20 μsec/div.



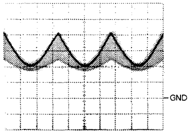
⑦ **Q216 Collector**
V range : 200V/div.
H range : 20 μsec/div.



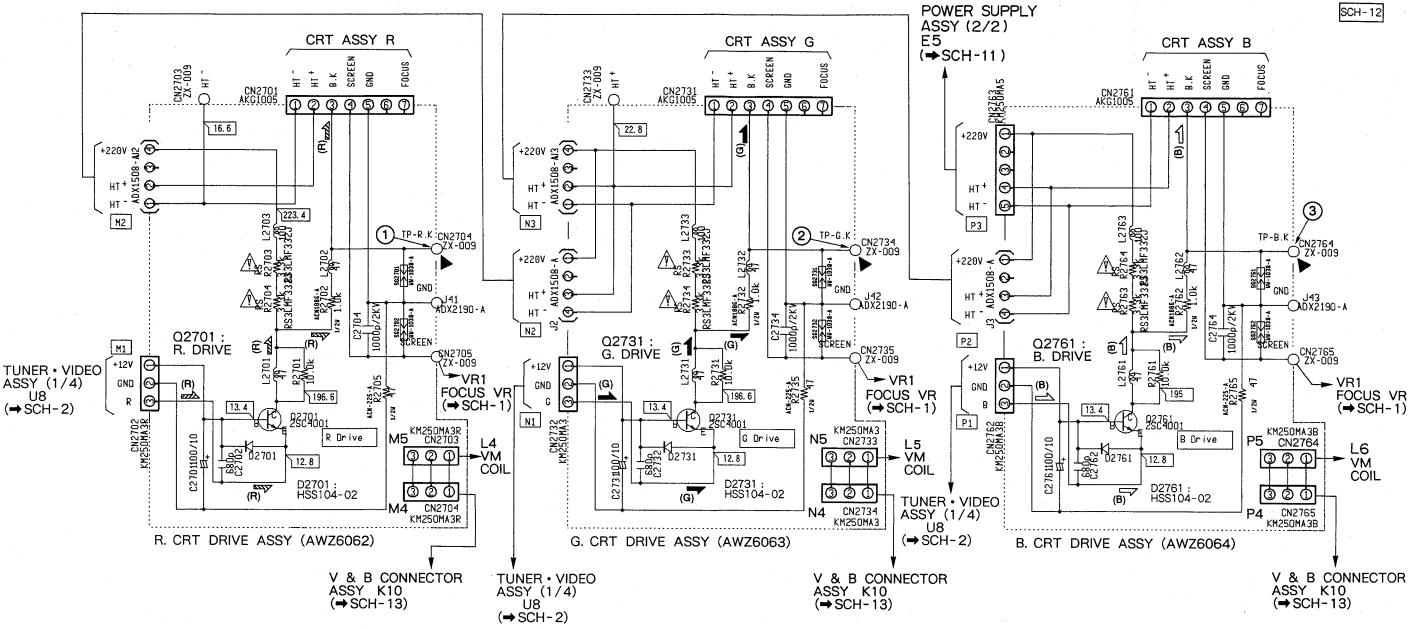
⑤ **Q218 Emitter**
V range : 5V/div.
H range : 20 μsec/div.



⑥ **Q213 Collector**
V range : 50V/div.
H range : 5msec/div.

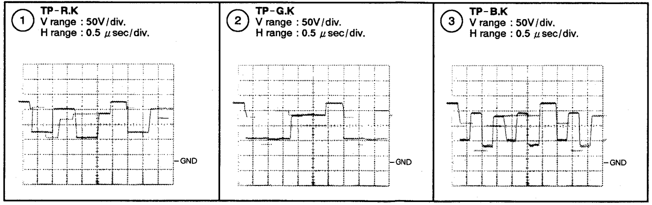


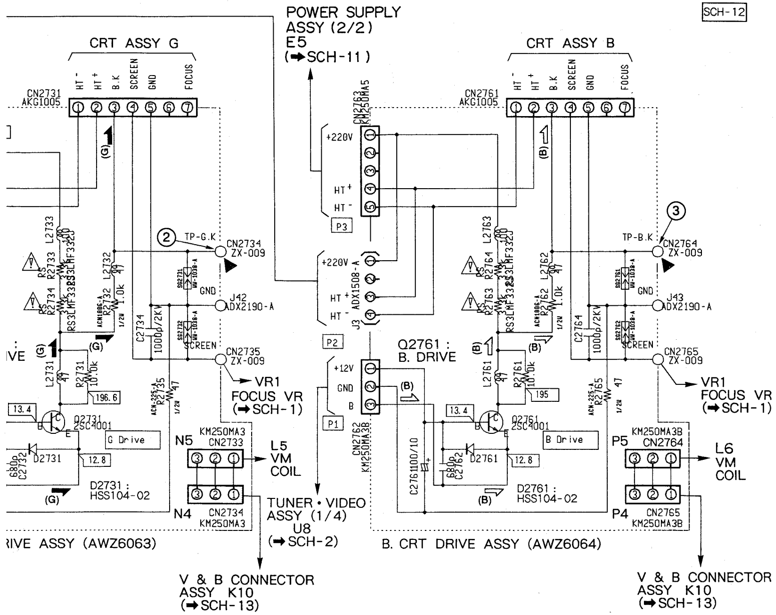
5.12 R,G,B CRT DRIVE ASSEMBLIES


SCH-12
CRT ASSY R
CRT ASSY G
CRT ASSY B
POWER SUPPLY ASSY (2/2) E5 (➡SCH-11)
HT⁻ HT⁺ B.K SCREEN GND FOCUS
CN2701 AKG1005
CN2703 ZX-009
CN2731 AKG1005
CN2733 ZX-009
CN2761 AKG1005
CN2763 KM250MA5
ADX1508-A12
ADX1508-A13
ADX1508-A
+220V
HT⁺
HT⁻
M2
N3
N2
J2
J3
P3
P2
16.6
223.4
22.8
TP-R.K
TP-G.K
TP-B.K
CN2704 ZX-009
CN2734 ZX-009
CN2764 ZX-009
J41 ADX2190-A
J42 ADX2190-A
J43 ADX2190-A
GND
SCREEN
CN2705 ZX-009
CN2735 ZX-009
CN2765 ZX-009
VR1 FOCUS VR (➡SCH-1)
L2703 R2703 R2704 RS3LMF332J
L2702 R2702 1.0k
C2704 1000p/2KV
R2705 47
L2701 R2701 10.0k
Q2701 : R. DRIVE
Q2701 2SC4001
13.4
196.6
12.8
R Drive
D2701
D2701 : HSS104-02
C2701 100/10
680p C2702
M1
M4
M5
+12V GND R
CN2702 KM250MA3R
KM250MA3R CN2703
CN2704 KM250MA3R
L4 VM COIL
TUNER • VIDEO ASSY (1/4) U8 (➡SCH-2)
R. CRT DRIVE ASSY (AWZ6062)
Q2731 : G. DRIVE
Q2731 2SC4001
G Drive
D2731
D2731 : HSS104-02
C2731 100/10
680p C2732
L2733 R2733 R2734
L2732 R2732 1.0k
C2734 1000p/2KV
R2735 47
L2731 R2731 10.0k
N1
N4
N5
+12V GND G
CN2732 KM250MA3
KM250MA3 CN2733
CN2734 KM250MA3
L5 VM COIL
G. CRT DRIVE ASSY (AWZ6063)
Q2761 : B. DRIVE
Q2761 2SC4001
195
B Drive
D2761
D2761 : HSS104-02
C2761 100/10
680p C2762
L2763 R2763 R2764
L2762 R2762 1.0k
C2764 1000p/2KV
R2765 47
L2761 R2761 10.0k
P1
P4
P5
+12V GND B
CN2762 KM250MA3B
KM250MA3B CN2764
CN2765 KM250MA3B
L6 VM COIL
B. CRT DRIVE ASSY (AWZ6064)
V & B CONNECTOR ASSY K10 (➡SCH-13)
(R) (G) (B)

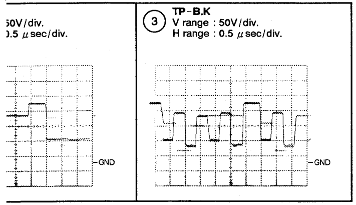
(R)▨ : R signal route
(G)▬ : G signal route
(B)▭ : B signal route

- Input signal : Color bar
- Picture quality : standard
- DC range (Unless otherwise noted.)



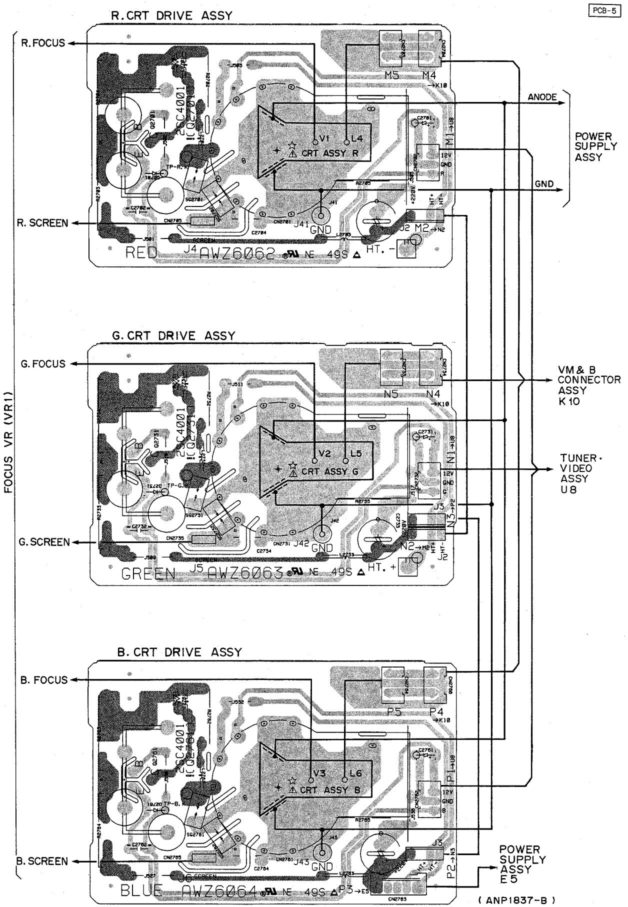

CRT ASSY G
HT⁻
HT⁺
B.K
SCREEN
GND
FOCUS
CN2731
AKG1005
POWER SUPPLY
ASSY (2/2)
E5
(➡SCH-11)
CRT ASSY B
CN2761
AKG1005
CN2763
KM250HA5
+220V
HT⁺
HT⁻
P3
+220V
ADX1508-A
J3
HT⁺
HT⁻
P2
+12V
GND
B
P1
CN2762
KM250MA3B
TP-G.K
CN2734
ZX-009
J42
ADX2190-A
GND
SCREEN
CN2735
ZX-009
VR1
FOCUS VR
(➡SCH-1)
L2733
R2733
R2734
L2732
R2732
1.0k
C2734
1000p/2KV
R2735
47
L2731
R2731
10.0k
196.6
13.4
Q2731
2SC4001
G Drive
D2731
12.8
680p
C2732
D2731 :
HSS104-02
N5
KM250MA3
CN2733
L5
VM
COIL
N4
CN2734
KM250MA3
TUNER • VIDEO
ASSY (1/4)
U8
(➡SCH-2)
RIVE ASSY (AWZ6063)
V & B CONNECTOR
ASSY K10
(➡SCH-13)
Q2761 :
B. DRIVE
C2761100/10
680p
C2762
D2761
13.4
Q2761
2SC4001
B Drive
12.8
D2761 :
HSS104-02
L2763
R2764
R2763
L2762
R2762
1.0k
C2764
1000p/2KV
R2765
47
L2761
R2761
10.0k
195
TP-B.K
CN2764
ZX-009
J43
ADX2190-A
GND
SCREEN
CN2765
ZX-009
VR1
FOCUS VR
(➡SCH-1)
P5
KM250MA3B
CN2764
L6
VM
COIL
P4
CN2765
KM250MA3B
B. CRT DRIVE ASSY (AWZ6064)
V & B CONNECTOR
ASSY K10
(➡SCH-13)
(G)
(B)

(R) ▨ : R signal route
(G) ➡ : G signal route
(B) ▷ : B signal route



R. CRT DRIVE ASSY,
G. CRT DRIVE ASSY,
B. CRT DRIVE ASSY

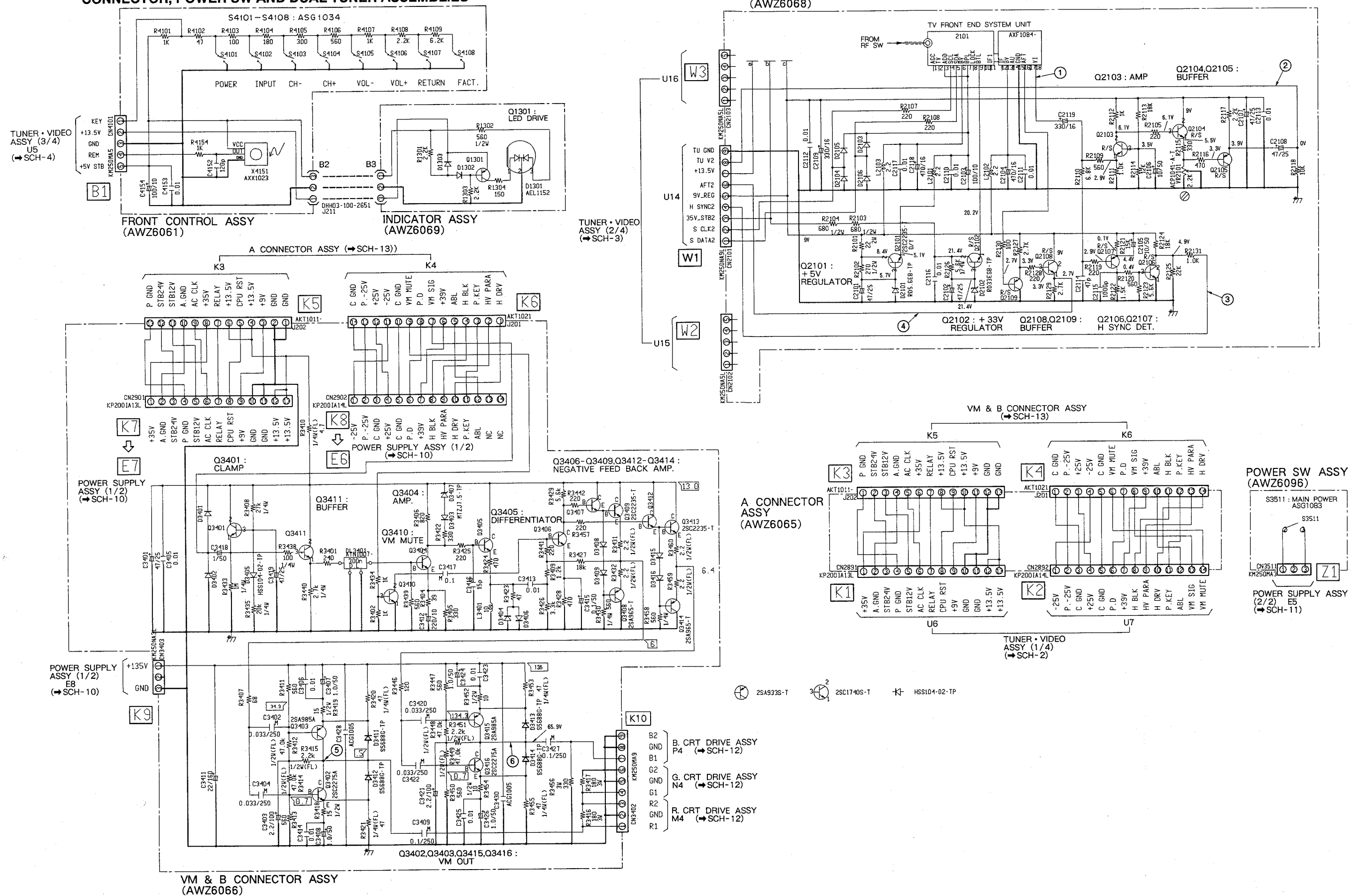
SCH-12


R.CRT DRIVE ASSY
R. FOCUS
R. SCREEN
ANODE
POWER SUPPLY ASSY
GND
M5
M4
V1
L4
CRT ASSY R
RED
AWZ6062
2SC4001
G.CRT DRIVE ASSY
G. FOCUS
G. SCREEN
N5
N4
V2
L5
CRT ASSY G
GREEN
AWZ6063
VM & B
CONNECTOR
ASSY
K10
TUNER·
VIDEO
ASSY
U8
FOCUS VR (VR1)
B.CRT DRIVE ASSY
B. FOCUS
B. SCREEN
P5
P4
V3
L6
CRT ASSY B
BLUE
AWZ6064
POWER
SUPPLY
ASSY
E5
(ANP1837-B)

▇ mark shows a high voltage generation point (excepting the charged section).

- This diagram is viewed from the mounted parts side.

5.13 FRONT CONTROL, INDICATOR, A CONNECTOR, VM & B CONNECTOR, POWER SW AND DUAL TUNER ASSEMBLIES

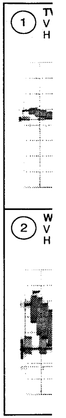

S4101 – S4108 : ASG1034
POWER
INPUT
CH-
CH+
VOL-
VOL+
RETURN
FACT.
TUNER • VIDEO ASSY (3/4) U5 (➡SCH-4)
KEY
+13.5V
GND
REM
+5V STB
B1
X4151 AXX1023
Q1301 : LED DRIVE
D1301 AEL1152
B2
B3
FRONT CONTROL ASSY (AWZ6061)
INDICATOR ASSY (AWZ6069)
A CONNECTOR ASSY (➡SCH-13))
K3
K4
K5
K6
K7
K8
E7
E6
POWER SUPPLY ASSY (1/2) (➡SCH-10)
Q3401 : CLAMP
Q3411 : BUFFER
Q3404 : AMP.
Q3410 : VM MUTE
Q3405 : DIFFERENTIATOR
Q3406-Q3409,Q3412-Q3414 : NEGATIVE FEED BACK AMP.
POWER SUPPLY ASSY (1/2) E8 (➡SCH-10)
+135V
GND
K9
K10
B. CRT DRIVE ASSY P4 (➡SCH-12)
G. CRT DRIVE ASSY N4 (➡SCH-12)
R. CRT DRIVE ASSY M4 (➡SCH-12)
Q3402,Q3403,Q3415,Q3416 : VM OUT
VM & B CONNECTOR ASSY (AWZ6066)
DUAL TUNER ASSY (AWZ6068)
TV FRONT END SYSTEM UNIT
FROM RF SW
U16
W3
U14
W1
U15
W2
TUNER • VIDEO ASSY (2/4) (➡SCH-3)
Q2103 : AMP
Q2104,Q2105 : BUFFER
Q2101 : +5V REGULATOR
Q2102 : +33V REGULATOR
Q2108,Q2109 : BUFFER
Q2106,Q2107 : H SYNC DET.
VM & B CONNECTOR ASSY (➡SCH-13)
A CONNECTOR ASSY (AWZ6065)
K1
K2
U6
U7
TUNER • VIDEO ASSY (1/4) (➡SCH-2)
POWER SW ASSY (AWZ6096)
S3511 : MAIN POWER ASG1083
POWER SUPPLY ASSY (2/2) E5 (➡SCH-11)
Z1
2SA933S-T
2SC1740S-T
HSS104-02-TP

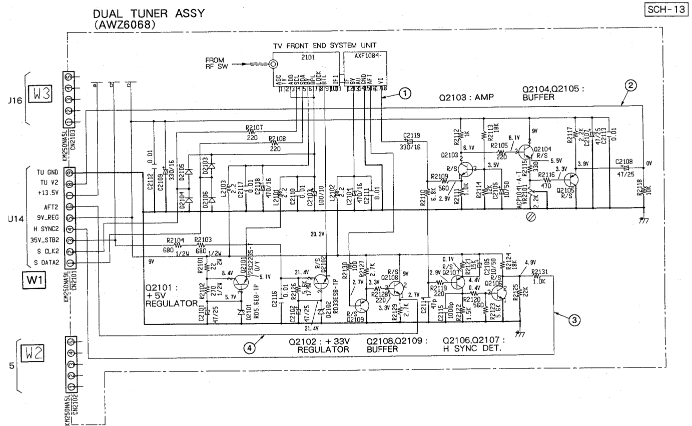
SCH-13 FRONT CONTROL ASSY, INDICATOR ASSY, A CONNECTOR ASSY, VM & B CONNECTOR ASSY, POWER SW ASSY, DUAL TUNER ASSY

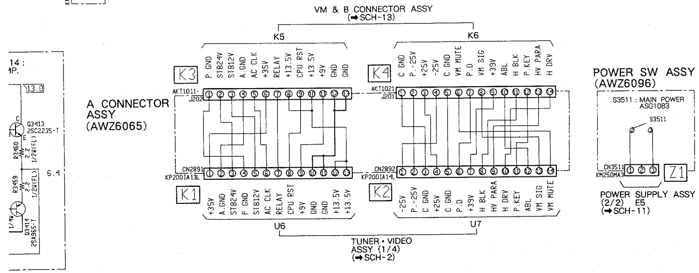
FRONT CONTROL ASSY, INDICATOR ASSY, A CONNECTOR ASSY, VM & B CONNECTOR ASSY, POWER SW ASSY, DUAL TUNER ASSY **SCH-13**

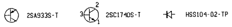
- **Wave**
- Input si

- Picture
- DC ran




DUAL TUNER ASSY
(AWZ6068)
TV FRONT END SYSTEM UNIT
FROM RF SW
2101
AXF1084-
AGC TV ADD SCL SDA BOL LOCK IF1 IF2 5V AUDIO GND AFT V1
Q2103 : AMP
Q2104,Q2105 : BUFFER
W3
J16
KM250NA5L CN2103
TU GND
TU V2
+13.5V
AFT2
9V_REG
H SYNC2
35V_STB2
S CLK2
S DATA2
U14
W1
KM250NA9L CN2101
W2
KM250NA5L CN2102
Q2101 : +5V REGULATOR
Q2102 : +33V REGULATOR
Q2108,Q2109 : BUFFER
Q2106,Q2107 : H SYNC DET.
R2107 220
R2108 220
R2104 680 1/2W
R2103 680 1/2W
C2119 330/16
C2108 47/25
20.2V
21.4V
①
②
③
④


VM & B CONNECTOR ASSY
(→SCH-13)
K5
K6
K3
K4
P GND
STB24V
STB12V
A GND
AC CLK
+35V
RELAY
+13.5V
CPU RST
+13.5V
+9V
GND
GND
C GND
P.-25V
-25V
C GND
VM MUTE
P.D
VM SIG
+39V
ABL
H BLK
P.KEY
HV PARA
H DRV
AKT1011- J202
AKT1021 J201
A CONNECTOR ASSY
(AWZ6065)
CN2891 KP200IA13L
CN2892 KP200IA14L
K1
K2
+35V
A GND
STB24V
P GND
STB12V
AC CLK
RELAY
CPU RST
+9V
GND
GND
+13.5V
+13.5V
-25V
P.-25V
C GND
+25V
C GND
P.D
+39V
H BLK
HV PARA
H DRV
P.KEY
ABL
VM SIG
VM MUTE
U6
U7
TUNER • VIDEO
ASSY (1/4)
(→SCH-2)
POWER SW ASSY
(AWZ6096)
S3511 : MAIN POWER
ASG1083
S3511
CN3511
KM250MA3
Z1
POWER SUPPLY ASSY
(2/2) E5
(→SCH-11)
Q3413
2SC2235-T
R3460
R3459
Q3414
2SA965-T
13.0
6.4


2SA933S-T
2SC1740S-T
HSS104-02-TP

B. CRT DRIVE ASSY
P4 (→SCH-12)

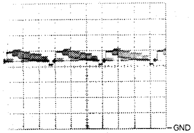
G. CRT DRIVE ASSY
N4 (→SCH-12)

R. CRT DRIVE ASSY
M4 (→SCH-12)

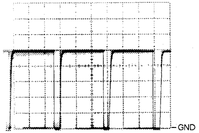
- **Waveformes at DUAL TUNER ASSY**
- Input signal (VIDEO):
  EIA Color bar (80dB μ, 87.5% mod.), 1kHz ± 25kHz dev.
- Picture quality : Standard
- DC range (Unless otherwise noted.)

- **Waveformes at VM & B CONNECTOR ASSY**
- Input signal : Cross hatch
- Picture quality : Standard
- DC range (Unless otherwise noted.)

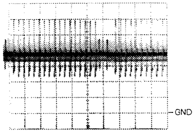
① **TV FRONT END pin 18**
V range : 1V/div.
H range : 20 μsec/div.



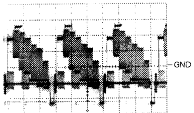
③ **W1 pin 4 (H SYNC 2)**
V range : 1V/div.
H range : 20 μsec/div.



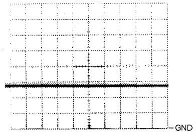
⑤ **Q3403 Collector**
V range : 20V/div.
H range : 0.5 μsec/div.



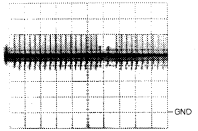
② **W1 pin 18 (TU V2)**
V range : 0.2V/div.
H range : 20 μsec/div.



④ **W1 pin 6 (AFT 2)**
V range : 1V/div.
H range : 20 μsec/div.

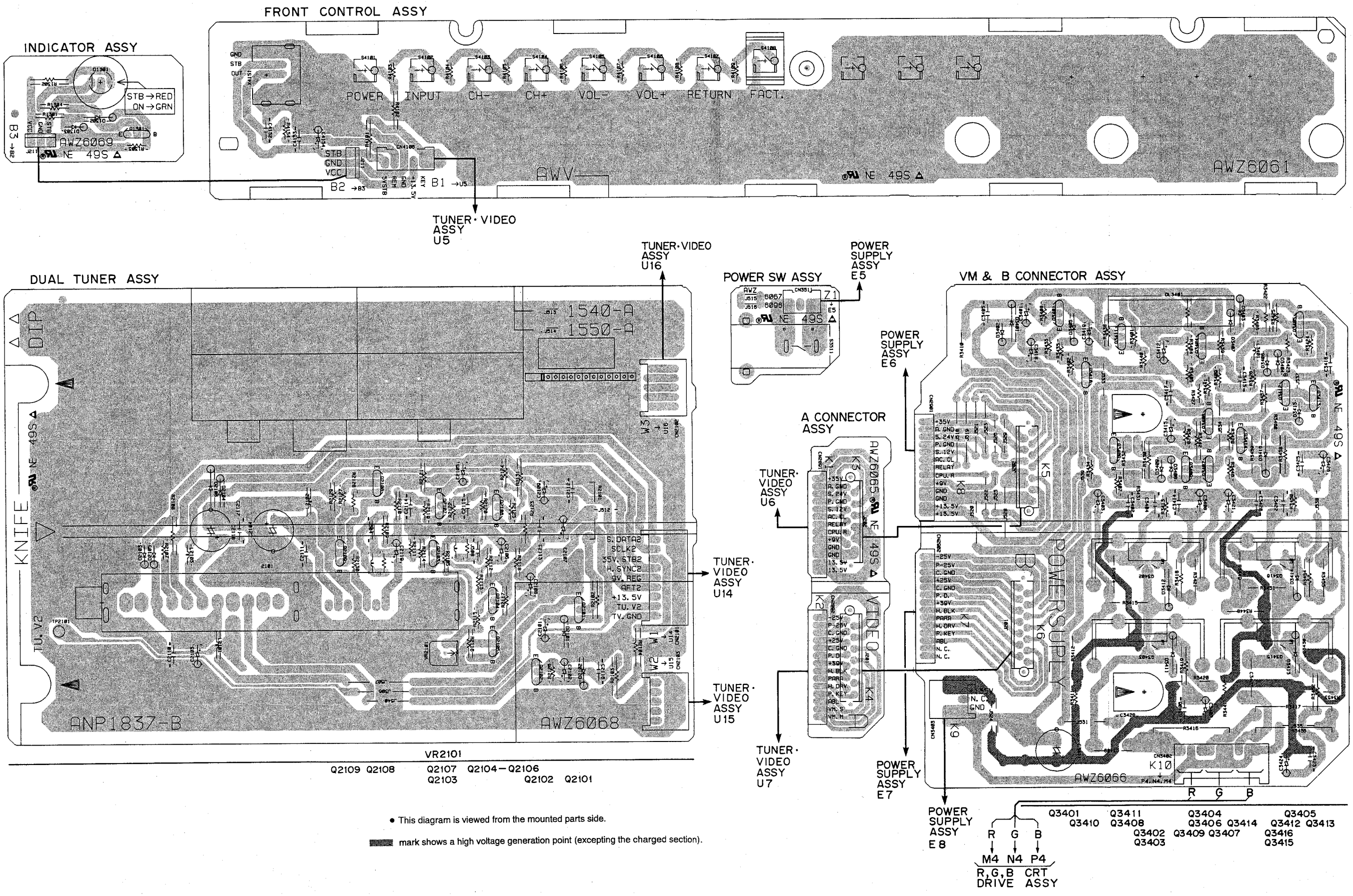


⑥ **Q3415 Collector**
V range : 20V/div.
H range : 0.5 μsec/div.



FRONT CONTROL ASSY,
INDICATOR ASSY, A CONNECTOR
ASSY, VM & B CONNECTOR ASSY,
POWER SW ASSY, DUAL TUNER ASSY

SCH-13

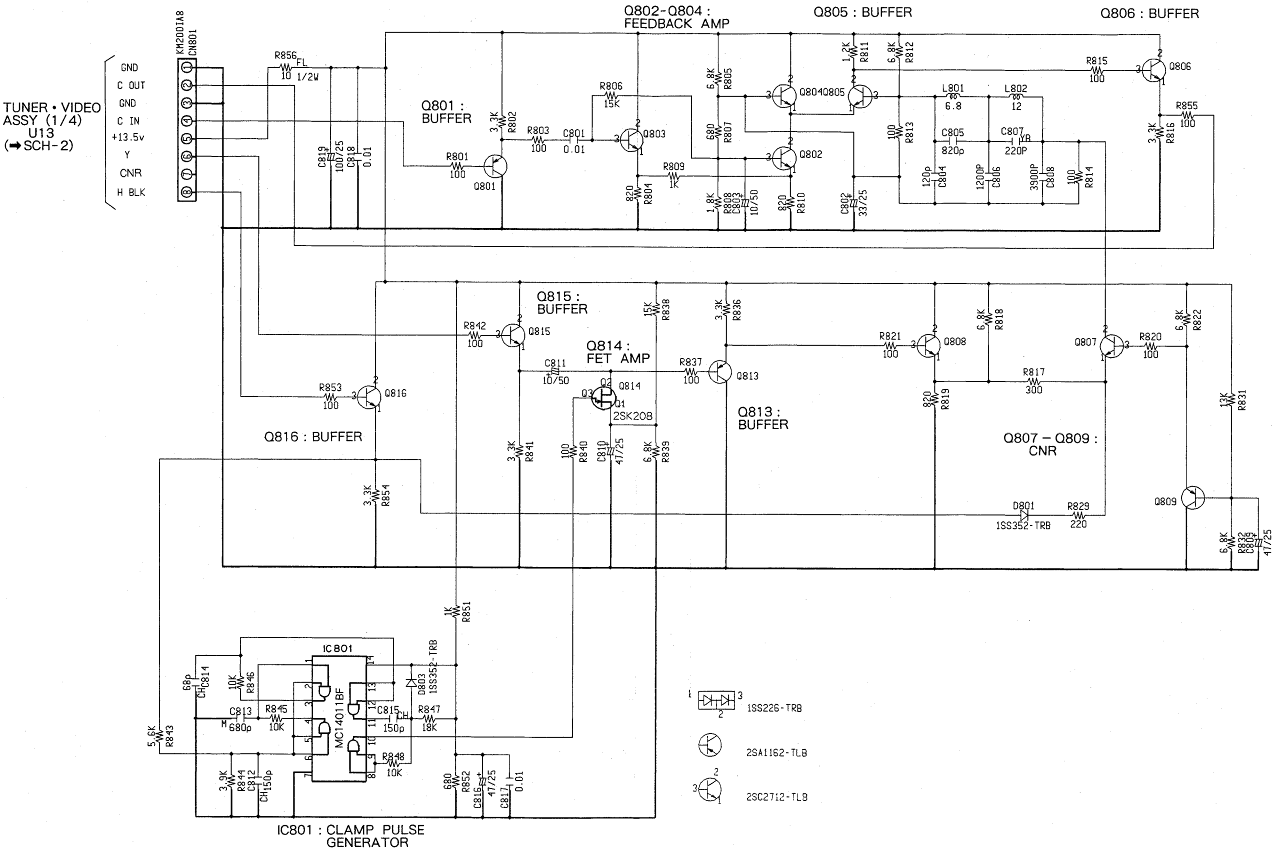

FRONT CONTROL ASSY
INDICATOR ASSY
STB→RED
ON→GRN
AWZ6069
B3 →B2
NE 49S
POWER
INPUT
CH-
CH+
VOL-
VOL+
RETURN
FACT.
STB
GND
VCC
B2 →B3
B1 →U5
AWV
AWZ6061
TUNER・VIDEO ASSY U5
TUNER・VIDEO ASSY U16
POWER SUPPLY ASSY E5
DUAL TUNER ASSY
POWER SW ASSY
VM & B CONNECTOR ASSY
1540-A
1550-A
DIP
KNIFE
TU. V2
ANP1837-B
AWZ6068
W3
S. DATA2
SCLK2
35V. STB2
H. SYNC2
9V. REG
AFT2
+13. 5V
TU. V2
TV. GND
W1
W2
TUNER・VIDEO ASSY U14
TUNER・VIDEO ASSY U15
POWER SUPPLY ASSY E6
A CONNECTOR ASSY
TUNER・VIDEO ASSY U6
AWZ6065
K1
K3
K2
K4
VIDEO
POWER SUPPLY
K5
K6
K7
K8
K9
K10
Z1
E5
AWZ6066
TUNER・VIDEO ASSY U7
POWER SUPPLY ASSY E7
POWER SUPPLY ASSY E8
R G B
M4 N4 P4
R,G,B CRT DRIVE ASSY
VR2101
Q2109 Q2108
Q2107 Q2104−Q2106
Q2103
Q2102 Q2101
Q3401 Q3410
Q3411 Q3408
Q3402 Q3403
Q3404 Q3406 Q3414 Q3409 Q3407
Q3405 Q3412 Q3413 Q3416 Q3415

- This diagram is viewed from the mounted parts side.

▇ mark shows a high voltage generation point (excepting the charged section).

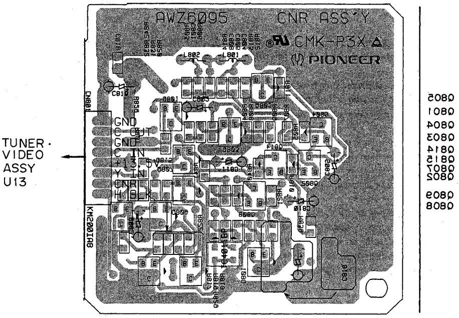
5.14 CNR ASSY (SD-P5193-K ONLY)

CNR ASSY (AWZ6095)


TUNER • VIDEO ASSY (1/4) U13 (➡SCH-2)
KM200IA8 CN801
1 GND
2 C OUT
3 GND
4 C IN
5 +13.5v
6 Y
7 CNR
8 H BLK
R856 FL 10 1/2W
C819 100/25
C818 0.01
Q801 : BUFFER
R801 100
Q801
3.3K R802
R803 100
C801 0.01
R806 15K
Q803
820 R804
R809 1K
Q802-Q804 : FEEDBACK AMP
6.8K R805
680 R807
1.8K R808
C803 10/50
Q804
Q802
820 R810
Q805 : BUFFER
Q805
1.2K R811
6.8K R812
C802 33/25
100 R813
L801 6.8
L802 12
C805 820p
C807 YB 220P
120p C804
1200P C806
3900P C808
100 R814
Q806 : BUFFER
R815 100
Q806
R855 100
3.3K R816
Q815 : BUFFER
R842 100
Q815
Q814 : FET AMP
C811 10/50
Q814 2SK208
15K R838
3.3K R836
R837 100
Q813
Q813 : BUFFER
R853 100
Q816
Q816 : BUFFER
3.3K R841
100 R840
C810 47/25
6.8K R839
3.3K R854
R821 100
Q808
6.8K R818
820 R819
R817 300
Q807
R820 100
6.8K R822
13K R831
Q807 – Q809 : CNR
D801 1SS352-TRB
R829 220
Q809
6.8K R832
C809 47/25
1K R851
IC801
MC14011BF
68p CH C814
10K R846
D803 1SS352-TRB
C813 M 680p
R845 10K
C815 CH 150p
R847 18K
R848 10K
5.6K R843
3.9K R844
C812 CH 150p
680 R852
C816 47/25
C817 0.01
IC801 : CLAMP PULSE GENERATOR
1SS226-TRB
2SA1162-TLB
2SC2712-TLB

SIDE A

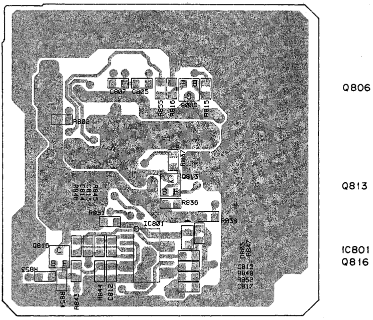
CNR ASSY (SD-P5193-K ONLY)

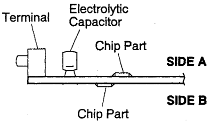

AWZ6095 CNR ASS'Y
CMK-P3X
PIONEER
CN801
GND
C OUT
GND
C IN
+13.5V
Y IN
CNR
H BLK
KM200IA8
TUNER · VIDEO ASSY U13
L802
L801
C810
C816
Q805
Q801
Q804
Q803
Q814
Q815
Q807
Q802
Q809
Q808

(ANP1838–B)

- This PCB is double sided.

SIDE B


C807
C805
R855
R816
Q806
R815
R802
R837
Q813
R836
R845
C813
C814
R846
R851
IC801
R838
Q816
R853
R854
R843
R844
C812
D803
R847
C815
R848
R852
C817
Q806
Q813
IC801
Q816


Terminal
Electrolytic Capacitor
Chip Part
SIDE A
SIDE B
Chip Part

6. PCB PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits(any digit apart from 0), such as 560 ohm and 47k ohm(tolerance is shown by J=5%, and K=10%).

560 Ω → 56×10^1 → 561 .... RD1/4PU$\boxed{5}\boxed{6}\boxed{1}$J
47k Ω → 47×10^3 → 473 .... RD1/4PU$\boxed{4}\boxed{7}\boxed{3}$J
0.5 Ω → 0R5 .... RN2H$\boxed{0}\boxed{R}\boxed{5}$K
1 Ω → 1R0 .... RS1P$\boxed{1}\boxed{R}\boxed{0}$K

Ex. 2 When there are 3 effective digits(such as in high precision metal film resistors).

5.62k Ω → 562×10^1 → 5621 .... RN1/4PC$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

- *Parts marked by ☆ are important parts which relate in X-rays radiation. If any of these parts need to be replaced, always replace with specified parts.*
- *Parts marked by × are important parts which relate in X-rays radiation. If a failure occurs in any of these parts, replace the printed circuit board assembly where the relevant part has already been adjusted as a working component. Do not replace the actual part itself. If any part marked by × is replaced, there is danger of being exposed to X-rays.*

LIST OF ASSEMBLIES

Mark	No. Description	Part No.
☆	POWER SUPPLY ASSY	AWV1551
	TUNER•VIDEO ASSY (SD-P5191-K AND SD-P4691-K)	AWV1539
	TUNER•VIDEO ASSY (SD-P5193-K)	AWV1552
NSP	FRONT CONTROL ASSY	AWV1540
	├ FRONT CONTROL ASSY	AWZ6061
	├ R.CRT DRIVE ASSY	AWZ6062
	├ G.CRT DRIVE ASSY	AWZ6063
	├ B.CRT DRIVE ASSY	AWZ6064
	├ A CONNECTOR ASSY	AWZ6065
	├ VM & B CONNECTOR ASSY	AWZ6066
	├ DUAL TUNER ASSY	AWZ6068
	├ INDICATOR ASSY	AWZ6069
	└ POWER SW ASSY	AWZ6096
NSP	AV I/O•CONVER. ASSY (SD-P5191-K AND SD-P4691-K)	AWV1541
NSP	AV I/O•CONVER. ASSY (SD-P5193-K)	AWV1553
	├ AV I/O ASSY	AWZ6070
	├ CONVERGENCE ASSY	AWZ6071
	├ S INPUT ASSY	AWZ6072
	└ CNR ASSY (SD-P5193-K ONLY)	AWZ6095

POWER SUPPLY ASSY

SEMICONDUCTORS

Mark	No. Description	Part No.
⚠	IC101	AN8026
	IC201, IC202	NJM4558DXP
	IC103	NJM7809FAS
	IC102, IC105	PC817CD
	Q201, Q204	2SA1145
	Q102, Q107, Q110, Q112, Q116	2SA933S
	Q209, Q210, Q217	2SA933S
	Q101, Q106, Q108, Q111	2SC1740S
	Q114, Q115, Q207, Q215	2SC1740S
	Q218-Q220	2SC1740S
×	Q205, Q206	
	Q103, Q208	2SC2705
	Q211	2SC3332
	Q216	2SC4256(E)
⚠	Q214	2SC4747(D)
	Q104, Q105, Q212, Q213	2SD1276A
⚠	Q113	2SK1168(A)
	D112	11DF2FD
	D199	BR3371XJ30A
	D101	D5SBA60(B)
	D211	ERA22-02
⚠	D209	ERB06-15
	D210, D214, D228	ERB06-15
	D208	ERB93-02L3
	D116, D136	ERC90M-02
	D115	ERD29-06J
⚠	D212	ESC021M-15
	D113, D122, D128, D130	HSS104-02
	D133-D135, D137-D142	HSS104-02
	D144-D147, D149-D151, D201	HSS104-02
	D205, D207, D215-D222	HSS104-02
	D224-D227	HSS104-02
	D152	HZS11A1L
	D119	HZS18-1L
	D111	HZS24L
	D106, D118, D121	HZS6B1L
	D114	HZS6C2L
×	D204	
	D206	MTZJ15
	D109, D110, D131, D148	MTZJ20
	D123, D132, D202	RD12ESB2
	D143	RD39ESB4
	D117	RD5.1ESB1
⚠×	D203	
	D223	RD5.1ESB1
	D124-D127, D190	RD5.1ESB2
	D102-D105	S5688G

COILS AND FILTERS

Mark	No.	Description	Part No.
	SG201		AEX-019
	L111, L112		ATF1118
	L104, L107-L110, L204		ATH-059
	L201		ATL1125
⚠	L203		ATL1126
	L114, L115		ATX1008
	L102, L103, L105		ATX1021
	L113, L205		ATX1023
	L202		LTA272J

TRANSFORMERS

Mark	No.	Description	Part No.
⚠	T101		ATK1102
	T102		ATT1272
⚠	T201		ATK1045
⚠×	T202		

RELAYS

Mark	No.	Description	Part No.
	RY101, RY102		ASR1036

CAPACITORS

Mark	No.	Description	Part No.
	C121-C124	(4700pF, 400V)	ACE1105
⚠	C127, C128	(0.22μF, 250V)	ACE1107
	C132, C172	(100pF, 2kV)	ACG-032
	C116-C119	(0.01μF, 250V)	ACG-501
	C106	(3300pF, 2kV)	ACG1008
	C223	(470pF, 2kV)	ACG1014
	C218, C222	(680pF, 2kV)	ACG1024
	C230	(4700pF, 2kV)	ACG1028
	C105, C107	(2200pF, 2kV)	ACG1046
	C216	(10μF, 160V)	ACH1117
	C115, C129	(470μF, 200V)	ACH1147
	C114	(820μF, 200V)	ACH1148
	C202, C211, C213		CCCSL101K500
	C133, C150		CCCSL221K500
	C243		CCCSL271K500
	C219, C238, C239		CEAS100M50
	C236		CEAS101M10
	C242		CEAS470M25
	C229		CEAS4R7M50
	C126, C136, C167		CEHAQ010M50
	C210		CEHAQ100M2C
	C137, C138, C153, C162, C165		CEHAQ100M50
	C207, C244		CEHAQ100M50
	C112		CEHAQ101M10
	C141, C143, C204		CEHAQ101M16
	C113		CEHAQ101M50
	C101		CEHAQ102M25
	C154, C221		CEHAQ220M2C
	C228		CEHAQ220M50
	C205, C209		CEHAQ221M10
	C139, C203		CEHAQ221M16
	C144, C145, C149		CEHAQ222M35
	C215		CEHAQ2R2M50
	C146		CEHAQ331M35
	C163, C164, C170		CEHAQ470M25
	C171		CEHAQR47M50
	C225		CFPA123J1200
	C224		CFPA153J1200
	C220		CFPA472J1200
	C226, C233		CFPMA824J2E

Mark	No.	Description	Part No.
	C111		CFTXA104J50
	C231		CFTYA105J50
	C240		CKCYB102K50
	C201, C208		CKCYB103K50
	C241		CKCYB222K50
	C212, C214, C234		CKCYB222K500
	C120		CKCYB471K50
	C135		CKCYB681K50
	C102, C166, C169		CKCYF103Z50
	C134, C140, C142, C147, C148		CKCYF473Z50
	C206, C227, C245		CKCYF473Z50
	C130, C131, C155		CKDYF103Z500
	C125, C237		CQMA103J50
	C108, C110		CQMA182J50
	C217, C235		CQMA223J50
	C232		CQMA333J50
	C109		CQMA472J50

RESISTORS

Mark	No.	Description	Part No.
	R160	(2.2MΩ, 1/2W)	ACN-208
	R241	(47Ω, 1/2W)	ACN-225
	R159	(1MΩ, 1/2W)	ACN1008
	R249	(33kΩ, 1/2W)	ACN1011
	R101, R102, R126, R233	(1Ω, 5W)	ACN1032
⚠	R268	(1Ω, 5W)	ACN1032
	R238		RD1/2PM122J
	R215		RD1/2PM361J
	R255		RD1/2PM561J
	R113		RD1/2PMFL100J
	R107, R112		RD1/2PMFL220J
	R224		RD1/2PMFL222J
	R239		RD1/2PMFL562J
⚠	R231		RD1/4PMFL221J
	R236		RD1/4PMFL2R2J
	R144		RD1/4PMFL331J
⚠	R288		RD1/4PMFL3R9J
⚠	R267		RD1/4PMFL470J
	R225		RD1/4PMFL471J
	R115		RD1/4PMFL681J
	R237, R265		RN1/2PC3902F
	R123, R124		RN1/4PC1603F
	R133		RN1/4PC2101F
	R132		RN1/4PC2431F
	R125		RN1/4PC3601F
	R270		RN1/4PC6202F
	R177		RS1LMF101J
	R235		RS1LMF220J
	R163, R164		RS1LMF333J
	R116		RS1LMF473J
×	R220		
	R109, R110		RS1LMFR22J
	R294		RS2LMF100J
	R253, R254		RS2LMF153J
	R121		RS2LMF223J
	R134		RS2LMF3R3J
	R175, R176		RS2LMF682J
	R242, R247, R266		RS3LMF104J
	R141		RS3LMF180J
	R219		RS3LMF682J

Mark	No.	Description	Part No.
	R161, R162, R179		RT10PZ120K
	R230, R232		RT5PZ820K
×	VR201		
×	VR202		
	VR203		VRTP6HS223
	VR102		VRTS6VS102
×	R207		
×	R209		
×	R214		
×	R216		
×	R217		
×	R218		
×	R250		
×	R251		
×	R270		
×	R271		
	Other Resistors		RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
		SCREW	ABA1228
		NYLON BINDER	AEC-093
⚠	FU101	FUSE (8A/125V)	AEK1002
⚠	FU102	FUSE (500mA/125V)	AEK1010
		THERMO CONDUCT SHEET	AEP1269
	CN204	PLUG 3-P	AKM1055
	CN201-CN203	PLUG 4-P	AKM1066
	CN101	PLUG 2-P	AKM1130
	H101-H104		AKR1003
		HEAT SINK M	ANH-697
		HEAT SINK	ANH-880
		HEAT SINK B	ANH1021
		HEAT SINK	ANH1371
		SW HEAT SINK	ANH1505
		SHIELD CASE	ANK1510
		SCREW	BBZ30P080FCU
	CN104	13P PLUG	KM200IA13
	CN103	14P PLUG	KM200IA14
	CN205	PLUG 7-P	KM250MA7
	CN105	SOCKET 3-P	KP250NA3
		SCREW	PBZ30P080FMC
		SCREW	VPZ40P100FMC

TUNER • VIDEO ASSY

• CONTRAST OF AWV1539 AND AWV1552

AWV1539 and AWV1552 have the same construction except for the following :

Symbol & Description	Part No.	
	AWV1539	AWV1552
D959	Not used	MTZJ6.8
R560	RD1/4PU820J	RD1/4PU750J
R563	RD1/4PU101J	RD1/4PU750J
R606	RD1/4PU152J	RD1/4PU182J
R607	RD1/4PU241J	RD1/4PU221J
R1000	RD1/4PU103J	RD1/4PU221J
R1021	Not used	RD1/4PU103J
CN507 8P PLUG	Not used	KM200IA8

• PARTS LIST FOR AWV1539

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC902		AT24C04-10PC
	IC4501		CXA1734S
	IC1402		LA4280-P
	IC1401		M5222L
	IC903		MC34064P
	IC901		PD5362B
	IC501		TA8845BN
	Q1405, Q4502, Q4506, Q4508, Q4513		2SA933S
	Q4515, Q503, Q504, Q506		2SA933S
	Q511, Q512, Q516, Q518-Q520		2SA933S
	Q523, Q529, Q540-Q542, Q901		2SA933S
	Q907, Q909, Q925-Q927		2SA933S
	Q1401-Q1404, Q1406, Q4504, Q4505		2SC1740S
	Q4507, Q4509-Q4511, Q4516, Q4517		2SC1740S
	Q501, Q502, Q505, Q507-Q510		2SC1740S
	Q513, Q517, Q524, Q527, Q528		2SC1740S
	Q530, Q532-Q539, Q546-Q548		2SC1740S
	Q902-Q906, Q908, Q910-Q916		2SC1740S
	Q920, Q921		2SC1740S
	Q4503, Q515		2SC2235
	Q4512		2SC2878
	Q917		2SD880
	Q4501, Q4514		XDC124ES
	Q543-Q545		XDC143ES
	D1405, D1407, D1408, D1411-D1421		HSS104-02
	D1423-D1426, D4507-D4511		HSS104-02
	D502-D504, D519, D532-D539		HSS104-02
	D541-D544, D547, D553		HSS104-02
	D556-D558, D560, D561		HSS104-02
	D570, D571, D584-D587, D901		HSS104-02
	D903, D911-D914, D920		HSS104-02
	D924, D925, D931, D932		HSS104-02
	D935-D939, D942-D944		HSS104-02
	D946-D948, D951, D952		HSS104-02
	D954, D955, D957, D960, D961		HSS104-02
	D965-D971		HSS104-02
	D1401-D1404, D4505, D4506, D508		MTZJ15
	D510-D518, D520, D521		MTZJ15
	D525-D530, D555, D559		MTZJ15
	D562-D565, D567-D569		MTZJ15
	D572-D583		MTZJ15
	D1422		MTZJ5. 1
	D1409, D1410, D4501, D4504, D902		MTZJ6. 8
	D904-D909, D915-D919		MTZJ6. 8
	D921-D923, D926-D929		MTZJ6. 8
	D933, D934, D941, D949, D950		MTZJ6. 8
	D953, D956, D958, D962-D964		MTZJ6. 8
	D509		RD10ESB2
	D930		RD15ESB
	D501		RD2. 2ESB1
	D4503		RD33ESB3
	D1406, D945		RD5. 1ESB2
	D4502		RD5. 6ESB3
	D505-D507, D522-D524, D531		S5688G
	D548, D549		S5688G

Mark	No.	Description	Part No.
COILS AND DELAY LINE			
	DL501		ATN1012
	L509		LAU100J
	L508		LAU101J
	L507		LAU150J
	L4501-L4504		LAU2R2K
	L506		LAU3R9J
	L501-L503		LAU4R7J
	L504, L505		LAU560J
	L901		LAU8R2K
CAPACITORS			
	C4526(3. 3 μF, 50V)		ACH1128
	C4517(10 μF, 50V)		ACH1129
	TC901		ACM-020
	C506		CCCCH100D50
	C534		CCCCH121J50
	C533, C535, C536		CCCCH151J50
	C907		CCCCH270J50
	C4508		CCCSL101J50
	C550, C551		CCCSL121J50
	C943-C946		CCCSL151J50
	C915, C930-C933		CCCSL221J50
	C543, C559		CCCSL330J50
	C4510		CCCSL470J50
	C549, C552		CCCSL680J50
	C4518, C4525, C516, C523, C524		CEAS010M50
	C902, C903, C916, C922, C924		CEAS010M50
	C1420, C1425, C912, C913		CEAS0R1M50
	C1401, C1402, C4504, C4512, C4513		CEAS100M50
	C4516, C514, C546, C929		CEAS100M50
	C939-C941		CEAS100M50
	C4505, C557, C905, C917, C921		CEAS101M10
	C4535, C512, C525		CEAS101M25
	C531		CEAS102M16
	C1419, C1428		CEAS102M25
	C1406, C560		CEAS221M16
	C1422, C1426		CEAS221M35
	C1410, C1411, C1415, C1416, C507		CEAS2R2M50
	C510, C517, C567		CEAS2R2M50
	C1413, C1417		CEAS330M35
	C4537, C4541		CEAS331M16
	C925		CEAS3R3M50
	C1403, C1404, C1409, C4503, C4515		CEAS470M25
	C4521, C4527, C4546, C519, C520		CEAS470M25
	C528, C529, C539, C935		CEAS470M25
	C1414		CEAS470M50
	C530		CEAS471M10
	C4506, C4542		CEAS471M16
	C919		CEAS471M25
	C1424		CEAS471M35
	C4509, C4519, C4520, C4531, C4532		CEAS4R7M50
	C4534, C4536, C4538, C4540, C521		CEAS4R7M50
	C4528, C511, C522		CEASR47M50
	C4522		CFTXA224J50
	C4511, C566, C908		CKCYB102K50
	C548, C554		CKCYB103K50

Mark	No.	Description	Part No.
	C537, C538		CKCYB122K50
	C910		CKCYB222K50
	C4514, C4523		CKCYB332K50
	C565		CKCYB471K50
	C901		CKCYB561K50
	C4501, C4502, C4507, C4524, C4533		CKCYF103Z50
	C4539, C4543, C501-C503, C513		CKCYF103Z50
	C526, C556, C561, C563, C909		CKCYF103Z50
	C911, C918, C920, C923		CKCYF103Z50
	C926, C927, C936		CKCYF103Z50
	C509		CKCYF472Z50
	C1405, C1421, C1423, C1427, C1429		CKCYF473Z50
	C532, C555, C906, C928, C942		CKCYF473Z50
	C1412, C1418		CKMYB151K50
	C1407, C1408		CKMYB561K50
	C914		CQMA102J50
	C505, C545		CQMA103J50
	C504, C527, C544		CQMA104J50
	C515		CQMA123J50
	C508		CQMA183J50
	C4530		CQMA272J50
	C518		CQMA392J50
	C4529		CQMA473J50
	C542, C547		CQMA683J50
RESISTORS			
	R587, R588, R593-R595		RD1/2PM100J
	R589		RD1/2PM120J
	R958		RD1/2PM122J
	R1027		RD1/2PM151J
	R1431, R1432		RD1/2PM152J
	R527		RD1/2PM221J
	R4506, R591, R592, R597		RD1/2PM271J
	R4507, R4509		RD1/2PM681J
	R568		RD1/2PM6R8J
	R1406		RD1/4PMFL150J
	R578		RD1/4PMFL220J
	R1423, R1425		RD1/4PMFL2R2J
	R1042, R957		RD1/4PMFL3R9J
	R4538		RN1/4PC4302F
	R4542		RN1/4PC6202F
	R4505		RS2LMF220J
	R579		RS2LMF5R6J
	R1424		RS2LMF6R8J
	VR4501 (2. 2kΩ)		ACP1041
	VR501		VRTS6VS153
	Other Resistors		RD1/4PU□□□J
OTHERS			
		PULG CORD	ADE-082
	J4503	3P HOUSING WIRE	ADX2240
		PLATE SPRING	ANG1569
		HEAT SINK	ANH1507
		SHIELD PLATE	ANK1500
	X901	CERAMIC RESONATOR	ASS1015
	X502	CERAMIC RESONATOR	ASS1019
	X501	CERAMIC RESONATOR(3. 579545MHz)	ASS1091
		SCREW	BBZ30P080FCU
	CN503	13P PLUG	KM200IA13

Mark	No.	Description	Part No.
	CN502	14P PLUG	KM200IA14
	CN1401	PLUG 4-P	KM250MA4
	CN901	PLUG 5-P	KM250MA5
	CN504	PLUG 8-P	KM250MA8
	CN501	PLUG 9-P	KM250MA9R
	CN1402	12P SOCKET	KP250NA12
	CN902	13P SOCKET	KP250NA13
	CN506	SOCKET 15-P	KP250NA15
	CN4502, CN4504	SOCKET 5-P	KP250NA5
	CN505	SOCKET 6-P	KP250NA6
	CN4501	9P SOCKET	KP250NA9

FRONT CONTROL ASSY

SWITCHES

	S4101-S4108		ASG1034

CAPACITORS

	C4152		CCCSL121J50
	C4154		CEAS101M10
	C4153		CKCYF103Z50

RESISTORS

	All Resistors		RD1/4PU□□□J

OTHERS

	X4151	REMOTE RECEIVER UNIT	AXX1023
	CN4106	PLUG 5-P	KM250MA5

R.CRT DRIVE ASSY

SEMICONDUCTORS

	Q2701		2SC4001
	D2701		HSS104-02

COILS AND FILTERS

	SG2701, SG2702		AEX-019
	L2703		LAU101K
	L2701, L2702		LAU470K

CAPACITORS

	C2704 (1000pF, 2kV)		ACG1001
	C2701		CEAS101M25
	C2702		CKCYB681K50

RESISTORS

	R2705 (47Ω, 1/2W)		ACN-225
	R2702 (1kΩ, 1/2W)		ACN1006
⚠	R2703, R2704		RS3LMF332J
	Other Resistors		RD1/4PU□□□J

OTHERS

		CRT SOCKET	AKG1005
		HEAT SINK M3	ANH1409
	CN2702-CN2704	PLUG 3-P	KM250MA3R
		SCREW	PMB30P100FMC

G.CRT DRIVE ASSY

SEMICONDUCTORS

	Q2731		2SC4001
	D2731		HSS104-02

Mark	No.	Description	Part No.

COILS AND FILTERS

	SG2731, SG2732		AEX-019
	L2733		LAU101K
	L2731, L2732		LAU470K

CAPACITORS

	C2734 (1000pF, 2kV)		ACG1001
	C2733		ACH1283
	C2731		CEAS101M25
	C2732		CKCYB681K50

RESISTORS

	R2735 (47Ω, 1/2W)		ACN-225
	R2732 (1kΩ, 1/2W)		ACN1006
⚠	R2733, R2734		RS3LMF332J
	Other Resistors		RD1/4PU□□□J

OTHERS

	J2, J3	LEAD WITH HOUSING	ADX2241
		CRT SOCKET	AKG1005
		HEAT SINK M3	ANH1409
	CN2732-CN2734	PLUG 3-P	KM250MA3
		SCREW	PMB30P100FMC

B.CRT DRIVE ASSY

SEMICONDUCTORS

	Q2761		2SC4001
	D2761		HSS104-02

COILS AND FILTERS

	SG2761, SG2762		AEX-019
	L2763		LAU101K
	L2761, L2762		LAU470K

CAPACITORS

	C2764 (1000pF, 2kV)		ACG1001
	C2761		CEAS101M25
	C2762		CKCYB681K50

RESISTORS

	R2765 (47Ω, 1/2W)		ACN-225
	R2762 (1kΩ, 1/2W)		ACN1006
⚠	R2763, R2764		RS3LMF332J
	Other Resistors		RD1/4PU□□□J

OTHERS

		CRT SOCKET	AKG1005
		HEAT SINK M3	ANH1409
	CN2762, CN2764, CN2766	PLUG 3-P	KM250MA3B
	CN2763	PLUG 5-P	KM250MA5
		SCREW	PMB30P100FMC

A CONNECTER ASSY

OTHERS

		CABLE HOLDER	AKT1011
	CN2891	13P SOCKET	KP200IA13L
	CN2892	14P SOCKET	KP200IA14L

VM & B CONNECTOR ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q3408, Q3414		2SA965
	Q3403, Q3415		2SA985A
	Q3401, Q3404-Q3407, Q3410-Q3412		2SC1740S
	Q3409, Q3413		2SC2235
	Q3402, Q3416		2SC2275A
	D3401-D3406, D3408, D3409		HSS104-02
	D3415, D3416		HSS104-02
	D3407		MTZJ7.5
	D3411-D3414		S5688G

COILS AND FILTERS

Mark	No.	Description	Part No.
	DL3401		ATN1007
	L3401		LAU100J

CAPACITORS

Mark	No.	Description	Part No.
	C3428, C3430		ACG1005
	C3416		CCCSL150J50
	C3407, C3408, C3418, C3424, C3426		CEAS010M50
	C3415		CEAS0R1M50
	C3412		CEAS221M10
	C3403, C3421		CEAS2R2M100
	C3401, C3419		CEAS470M25
	C3411		CEHAQ220M2C
	C3413		CKCYB103K50
	C3405, C3406, C3414, C3423, C3425		CKCYF103Z50
	C3417		CQMA104J50
	C3409, C3427		CQMA104K250
	C3402, C3404, C3420, C3422		CQMA333K250

RESISTORS

Mark	No.	Description	Part No.
	R3452, R3454		RD1/2PM100J
	R3418, R3419		RD1/2PM150J
	R3415, R3451		RD1/2PMFL222J
	R3431, R3432, R3459, R3460		RD1/2PMFL2R2J
	R3412, R3414, R3448, R3449		RD1/2PMFL473J
	R3430, R3458		RD1/4PM561J
	R3420, R3421, R3453, R3455		RD1/4PMFL470J
	R3410		RD1/4PMFL4R7J
	R3416, R3417		RS3LMF181J
	R3456		RS3LMF331J
	OtherResistors		RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
		CABLE HOLDER	AKT1011|
		HEAT SINK M	ANH-697|
	CN3403	PLUG 3-P	KM250NA3L|
	CN2901	13P SOCKET	KP200IA13L|
	CN2902	14P SOCKET	KP200IA14L|
		SCREW	PBZ30P080FMC

DUAL-TUNER ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q2105, Q2107, Q2109		2SA933S
	Q2102-Q2104, Q2106, Q2108		2SC1740S
	Q2101		2SC2235
	D2103-D2106		HSS104-02
	D2102		RD33ESB
	D2101		RD5.6EB

COILS

Mark	No.	Description	Part No.
	L2101-L2103		LAU2R2J

CAPACITORS

Mark	No.	Description	Part No.
	C2114		CCCCH470J50
	C2102, C2105, C2106		CEAS100M50
	C2103		CEAS101M10
	C2109, C2119		CEAS331M16
	C2101, C2107, C2108		CEAS470M25
	C2104, C2118		CEAS471M16
	C2115		CKCYB102K50
	C2110-C2113, C2116, C2117		CKCYF103Z50

RESISTORS

Mark	No.	Description	Part No.
	R2102		RD1/2PM271J
	R2103, R2104		RD1/2PM681J
	R2101		RS2LMF220J
	VR2101(2.2kΩ)		ACP1041
	Other Resistors		RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
	CN2102, CN2103	PLUG 5-P	KM250NA5L
	CN2101	9P PLUG	KM250NA9L

INDICATOR ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q1301		2SA933S
	D1301		AEL1152
	D1302, D1303		HSS104-02

RESISTORS

Mark	No.	Description	Part No.
	R1302		RD1/2PMF561J
	Other Resistors		RD1/4PU□□□J

POWER SW ASSY

SWITCH

Mark	No.	Description	Part No.
	S3511		ASG1083

OTHERS

Mark	No.	Description	Part No.
	CN3511	PLUG 3-P	KM250MA3

AV I/O ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC3004		HA11579
	IC3002		HD49420FS
	IC3001		HM53461ZP-12
	IC3006		M5233P
	IC3201		MC14066BF
	IC1601, IC1602		NJM2246M
	IC3005		NJM7805FAS
	IC1603		TC4052BF
	IC3003		TC4538BF
	Q1603, Q1606, Q3013, Q3203, Q3206		2SA1162
	Q3208		2SA1162
	Q1602, Q3014, Q3015		2SC1740S
	Q1601, Q1604, Q1605, Q1607-Q1615		2SC2712

Mark	No.	Description	Part No.
	Q3001-Q3005, Q3007, Q3202, Q3204		2SC2712
	Q3207, Q3209-Q3211		2SC2712
	Q3006, Q3010-Q3012		XDC143EK
	D1601-D1610, D3002-D3006		1SS226
	D3201-D3207		1SS226
	D3001		1SS352
	D3007		RD6. 8MB
COILS AND FILTERS			
	F3002		ATF1166
	L3006		ATH1046
	F3001		CTJ1002
	L3203		LAU100K
	L3008		LAU101J
	L3007		LAU680J
	L3001-L3005		LAU8R2K
CAPACITORS			
	C3022, C3069		CCSQCH101J50
	C3061		CCSQCH121J50
	C3017, C3018, C3071		CCSQCH151J50
	C3060		CCSQCH220J50
	C3206		CCSQCH221J50
	C3049		CCSQCH270J50
	C3027, C3030		CCSQCH271J50
	C3062, C3068		CCSQCH330J50
	C3070		CCSQCH470J50
	C1607-C1614, C3050, C3053		CEAS010M50
	C1601-C1606, C3028, C3039, C3051		CEAS100M50
	C3056, C3057, C3065, C3072		CEAS100M50
	C3012, C3014, C3040, C3046, C3052		CEAS101M10
	C3203, C3209		CEAS101M25
	C3211		CEAS101M50
	C1615		CEAS102M16
	C3015, C3016, C3026, C3064		CEAS220M50
	C1619, C1623, C1625, C1627, C1629		CEAS221M16
	C1631, C1633, C1635		CEAS221M16
	C3019		CEAS2R2M50
	C3024, C3032		CEAS470M25
	C3048		CEAS4R7M50
	C3037, C3038		CEASR22M50
	C3020, C3021		CEASR47M50
	C3074		CEHAQ101M10
	C3075		CEHAQ101M25
	C3066		CEHAQ221M10
	C3077, C3201		CEHAQ221M16
	C3029, C3031		CFTXA334J50
	C3035, C3036		CKSQYB102K50
	C3006, C3047, C3058, C3202, C3205		CKSQYB103K50
	C3210, C3212		CKSQYB103K50
	C3001-C3004, C3054, C3059		CKSQYB223K50
	C3063		CKSQYB333K50
	C1616-C1618, C1620-C1622, C1624		CKSQYB473K50
	C1626, C1628, C1630, C1634, C1636		CKSQYB473K50
	C3005, C3007-C3010, C3013, C3023		CKSQYF104Z25
	C3041-C3045, C3055, C3067, C3073		CKSQYF104Z25
	C3076, C3079, C3080		CKSQYF104Z25
	C3011, C3081		CKSQYF473Z25
	C3033, C3034		CQMA153J50

Mark	No.	Description	Part No.
RESISTORS			
	R1671		RD1/2PM221J
	R3235		RD1/2PMFL150J
	R1669, R1673		RD1/4PMFL220J
	R3067		RS2LMF120J
	VR3002	(470Ω)	ACP1039
	VR3001	(1kΩ)	ACP1040
	VR3003	(4. 7kΩ)	ACP1042
	OtherResistors		RS1/10S□□□J
OTHERS			
	CN1601	PIN JACK(9P)	AKB1199
		CABLE HOLDER	AKT1023
		HEAT SINK M	ANH-697
	X3001	(3. 579545MHz)	ASS1091
	M3201	COMB FILTER MODULE	AXX1052
	CN1602	12P PLUG	KM250NA12L
	CN3001	13P PLUG	KM250NA13L
		SCREW	PBZ30P080FMC

CONVERGENCE ASSY

SEMICONDUCTORS			
	IC2303, IC2311, IC2313, IC2320		NJM4558M-D
	IC2321		NJM78M05FAS
	IC2312		NJM79M05FA
	IC2301, IC2302		PA0053B
	IC2307-IC2309		PM0002B
	IC2317, IC2319		STK392-110
	Q2301, Q2302, Q2329, Q2330		2SA1162
	Q2332, Q2333		2SA1162
	Q2314		2SB950A
	Q2303-Q2308, Q2311-Q2313		2SC2712
	Q2318-Q2324, Q2326, Q2327		2SC2712
	Q2315		2SD1276A
	Q2309		FC103
	D2301, D2302, D2307, D2308, D2312		1SS226
	D2314-D2316, D2320, D2325, D2326		1SS226
	D2334, D2335, D2337-D2340		1SS226
	D2343, D2344, D2347-D2355, D2360		1SS226
	D2365, D2366, D2382-D2386		1SS226
	D2305, D2379, D2380		1SS352
	D2381		BR3371XJ30A
	D2313, D2319		RD12MB
	D2317		RD15MB
	D2306		RD5. 1MB
	D2303, D2304, D2318, D2323, D2324		RD6. 8MB
	D2332, D2333, D2341, D2342		RD6. 8MB
	D2367-D2378		S5688G
CAPACITORS			
	C2343-C2348, C2356-C2361		CCSQSL101J50
	C2367-C2372		CCSQSL101J50
	C2375		CCSQSL120J50
	C2396, C2397, C2406-C2408		CCSQSL151J50
	C2418-C2420		CCSQSL151J50
	C2435-C2442		CCSQSL221J50
	C2398		CCSQSL331J50
	C2377		CCSQSL680J50
	C2425		CEANP100M35
	C2301, C2303, C2304, C2315		CEAS010M50

Mark	No.	Description	Part No.
	C2329, C2331, C2332, C2374		CEAS100M50
	C2431, C2432		CEAS100M50
	C2424, C2433, C2448, C2449		CEAS101M25
	C2318		CEAS1R5M50
	C2319, C2330		CEAS220M50
	C2384, C2443		CEAS221M10
	C2350		CEAS221M16
	C2400, C2401, C2409, C2410		CEAS221M35
	C2412, C2413, C2421, C2422		CEAS221M35
	C2427, C2428		CEAS221M35
	C2316, C2322		CEAS330M35
	C2310, C2312, C2324, C2326, C2339		CEAS331M6
	C2341, C2352, C2354, C2363, C2365		CEAS331M6
	C2321, C2426		CEAS470M25
	C2306		CEASR47M50
	C2383		CEHAQ101M25
	C2317		CFTYA184J50
	C2320, C2328		CFTYA224J50
	C2394		CKSQYB122K50
	C2395		CKSQYB152K50
	C2399		CKSQYB681K50
	C2308, C2309, C2311, C2323, C2325		CKSQYF473Z50
	C2327, C2333-C2335, C2340, C2342		CKSQYF473Z50
	C2351, C2353, C2355, C2362, C2364		CKSQYF473Z50
	C2366, C2373, C2376, C2378, C2379		CKSQYF473Z50
	C2385-C2389, C2391-C2393		CKSQYF473Z50
	C2402-C2405, C2414-C2417		CKSQYF473Z50
	C2429, C2430, C2434, C2444		CKSQYF473Z50
	C2307, C2314		CQMA102J50
	C2349		CQMA104J50
	C2302, C2305		CQMA471J50
	C2313		CQPA152J100

RESISTORS

Mark	No.	Description	Part No.
	R2617-R2622		RD1/2PM151J
	R2634		RS1LMFR47J
	R2605, R2606, R2631, R2632		RS1MMF220J
	R2611-R2613, R2635-R2637		RS1MMF2R2J
	R2614-R2616		RS1MMF470J
	R2601		RS1MMF562J
	R2607-R2610, R2633		RS1MMFR47J
	R2602		RS2LMF010J
	R2600		RS2MMF010J
	R2668, R2669		RS3LMF120J
	R2705		RS3LMF1R8J
	R2604		RS3LMF2R2J
	R2544		RT5PZ560K
	Other Resistors		RS1/10S☐☐☐J

OTHERS

Mark	No.	Description	Part No.
		SCREW	ABA1056
		SCREW	BBZ30P080FCU
	CN2301	PLUG 6-P	KM250MA6L
	CN2303	PLUG 6-P	KM250MA6LR
	CN2304	PLUG 15-P	KM250NA15L
	CN2305	PLUG 6-P	KM250NA6L
		SCREW	PBZ30P080FMC

S INPUT ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC1700, IC1701		NJM2234M
	Q1700, Q1701, Q1703		2SA1162
	Q1702		2SC2712
	D1700, D1701		1SS226

CAPACITORS

Mark	No.	Description	Part No.
	C1703		CEAS010M50
	C1711, C1712		CEAS100M50
	C1709, C1710		CEAS221M16
	C1705, C1706		CKCYB103K50
	C1701		CKSQYB102K50
	C1700, C1704		CKSQYB103K50
	C1702, C1707, C1708, C1713, C1714		CKSQYB473K50

RESISTORS

Mark	No.	Description	Part No.
	All Resistors		RS1/10S☐☐☐J

OTHERS

Mark	No.	Description	Part No.
	CN1701	SOCKET	AKP1064
		CABLE HOLDER	AKT1023

CNR ASSY (SD-P5193-K ONLY)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC801		MC14011BF
	Q801, Q809, Q813		2SA1162
	Q802-Q808, Q815, Q816		2SC2712
	Q814		2SK208
	D801, D803		1SS352

COILS

Mark	No.	Description	Part No.
	L802		LAU120J
	L801		LAU6R8J

CAPACITORS

Mark	No.	Description	Part No.
	C812, C815		CCSQCH151J50
	C807		CCSQCH221J50
	C814		CCSQCH680J50
	C813		CCSQCH681J50
	C804		CCSQSL121J50
	C803, C811		CEAS100M50
	C819		CEAS101M25
	C802		CEAS330M25
	C809, C810, C816		CEAS470M25
	C801		CKSQYB103K50
	C806		CKSQYB122K50
	C808		CKSQYB392K50
	C805		CKSQYB821K50
	C817, C818		CKSQYF103Z50

RESISTORS

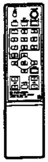
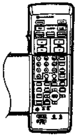
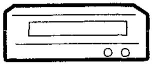
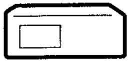
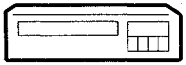
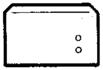
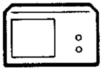
Mark	No.	Description	Part No.
	R856		RD1/2PMFL100J
	Other Resistors		RS1/10S☐☐☐J

OTHERS

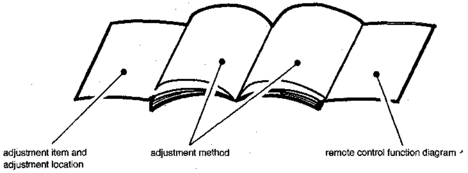
Mark	No.	Description	Part No.
	CN801	8P SOCKET	KP200IA8L

7. ADJUSTMENT

■ Jigs and measurring instruments

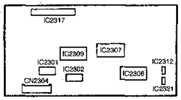
 Remote control unit	 Remote control unit AXD1352 (CU-SD076)	 ⊖Screw driver
 ⊖Adjust screw driver	 Color bar signal	 D.DC. Volt meter
 LD player	 MONO scope	 Dual trace oscilloscope

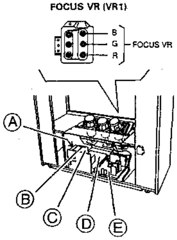
● Page configuration for assembly adjustment methods

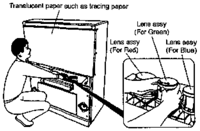

adjustment item and
adjustment location
adjustment method
remote control function diagram

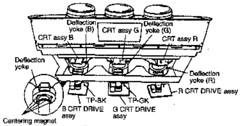
■ Assembly adjustment locations and items

Ⓐ CONVER ASSY


IC2317
IC2309
IC2307
IC2301
IC2302
IC2306
IC2312
CN2304
IC2321

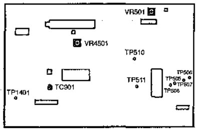

FOCUS VR (VR1)
B
G
R
FOCUS VR
Ⓐ
Ⓑ
Ⓒ
Ⓓ
Ⓔ


Translucent paper such as tracing paper
Lens assy (For Green)
Lens assy (For Red)
Lens assy (For Blue)

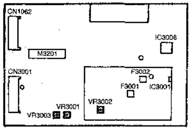

Deflection yoke (B)
CRT assy G
Deflection yoke (G)
CRT assy B
CRT assy R
Deflection yoke
Deflection yoke (R)
R CRT DRIVE assy
TP-BK
TP-GK
B CRT DRIVE assy
G CRT DRIVE assy
Centering magnet

(Turn in either direction untill cross signal becomes white.)

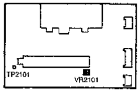
Ⓓ TUNER VIDEO ASSY


VR501
VR4501
TP510
TP511
TP506
TP505
TP507
TP508
TC901
TP1401

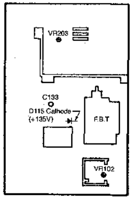
Ⓒ AV I/O ASSY


CN1062
IC3006
M3201
CN3001
F3002
F3001
IC3001
VR3002
VR3001
VR3003

Ⓑ DUAL TUNER ASSY


TP2101
VR2101

Ⓔ POWER SUPPLY ASSY

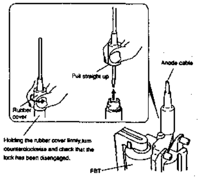

VR203
C133
D115 Cathode (+135V)
F.B.T
VR102

MEASURING METHOD

Disconnect the FBT anode cable as outlined in Fig. 7-5.
Measure at the point where the cable enters the FBT.

Caution: Take extra precaution when measuring this high voltage. High voltages are also present in surrounding circuit boards (CRT DRIVE assembly, POWER SUPPLY assembly).

SERVICEMAN WARNING
Before removing the anode cable,turn off the power, unplug the AC plug and let the unit discharge for more than 1 minute.


Pull straight up
Anode cable
Rubber cover
FBT

Holding the rubber cover firmly,turn counterclockwise and check that the lock has been disengaged.

Note:When reconnecting the cable,proceed in the reverse order.
After reconnecting,tug on the cable to check that it is secure.

❶ 135V Power supply adjustment
❷ Contrust coarse adjustment
❸ Bright H-Center position adjustment
❹ Deflection yoke lean adjustment
❺ Screen center adjustment
❻ Focus adjustment of lens adjustment
❼ Focus VR adjustment
❽ Vertical size adjustment
❾ Horizontal size adjustment
❿ Convergence adjustment
⓫ Test cross H-Center position adjustment
⓬ Tuner block adjustment
⓭ White balance adjustment
⓮ PIONEER's standard settings
⓯ Pinp sub-picture adjustment

Assembly adjustment locations guide

Ⓔ If POWER SUPPLY ASSY	is repaired	● 135V power supply adjustment .... P.93 ❶ ● Focus VR adjustment .... P.95 ❼ ● Vortical size adjustment .... P.95 ❽ ● Horizontal size adjustment .... P.95 ❾ ● Convergence adjustment .... P.96—107 ● White balance adjustment .... P.113 ⓭
	is replaced	● Vertical size adjustment .... P.95 ❽ ● Horizontal size adjustment .... P.95 ❾ ● Convergence adjustment .... P.96—107 ● White balance adjustment .... P.113 ⓭
Ⓓ If TUNER-VIDEO ASSY	is repaired: the video block	● Brightness adjustment .... P.93 ❸ ● White balance adjustment .... P.113 ⓭ ● Pioneer's standard adjustment .... P.113—114
	is repaired: the micro-computer block	● Contrust coarse adjustment .... P.93 ❷ ● Brightness adjustment .... P.93 ❸ ● Test-cross H-Center position adjustment .... P.108 ⓫ ● Pioneer's standard settings .... P.113—114
	is repaired: the tuner block	● Tuner block adjustment .... P.108—112
	is repaired: the audio block	● No adjustment is required P.93
	is replaced	● All the above adjustments except for the test-cross H-Center position adjustment and tuner adjustment are required.
Ⓐ If CONVERGENCE ASSY	is repaired or replaced	● Convergence adjustment .... P.96—107
If R.G or B CRT DRIVE ASSY	was repaired or replaced	● White balance adjustment .... P.113 ⓭
Ⓒ If AV I/O ASSY	is repaired	● Y-signal level adjustment of sub-picture .... P.115 ⓯ ● TINT adjustment of sub-picture .... P.115 ⓰ ● Color level adjustment of sub-picture .... P.115 ⓱ ● White clock adjustment .... P.116 ⓲ ● Read clock adjustment .... P.116 ⓳
	is replaced	● No adjustment is required.
If CRT ASSY	R, G, B or deflection yoke is replaced	● Deflection yoke lean adjustment .... P.94 ❹ ● Screen center adjustment .... P.94 ❺ ● Focus VR adjustment .... P.95 ❼ ● Convergence adjustment .... P.96—107 ● White balance adjustment .... P.113 ⓭ ● Pioneer's standard settings .... P.113—114
If LENS ASSY	is replaced	● Focus adjustment of lens assembly .... P.94 ❻ ● Convergence adjustment .... P.96—107
If OTHER ASSY	is repaired or replaced	● No adjustment is required.

Reset the other items such as the tuner preset channels, convergence, etc. which should be set by the user.

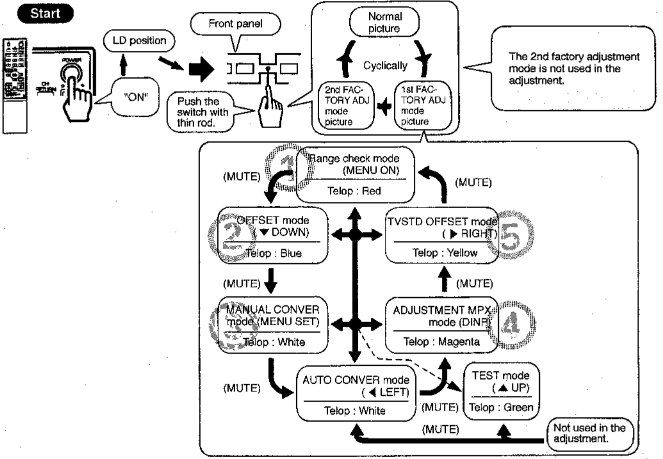
■ Factory adjustment mode

Start .... Start adjusting

1st FAC .... Select 1st factory adjustment mode, then adjust.

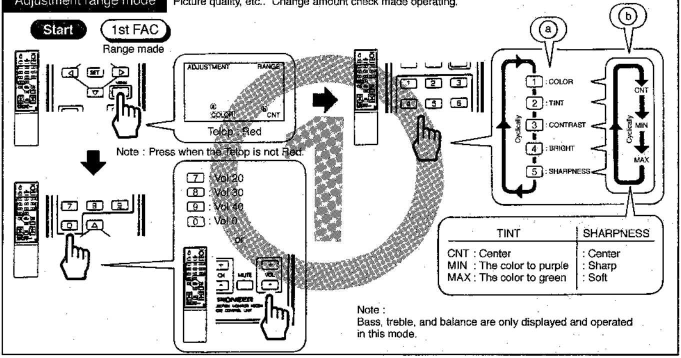
Select 1st FACTORY ADJ mode

Selecting the mode for adjustment operations.


Start
LD position
Front panel
"ON"
Push the switch with thin rod.
Normal picture
Cyclically
2nd FACTORY ADJ mode picture
1st FACTORY ADJ mode picture
The 2nd factory adjustment mode is not used in the adjustment.
Range check mode (MENU ON)
Telop : Red
(MUTE)
OFFSET mode (▼DOWN)
Telop : Blue
TVSTD OFFSET mode (▶RIGHT)
Telop : Yellow
MANUAL CONVER mode (MENU SET)
Telop : White
ADJUSTMENT MPX mode (DINP)
Telop : Magenta
AUTO CONVER mode (◀LEFT)
Telop : White
TEST mode (▲UP)
Telop : Green
Not used in the adjustment.
1
2
3
4
5

Adjustment range mode

Picture quality, etc.. Change amount check made operating.


Start
1st FAC
Range made
ADJUSTMENT
RANGE
COLOR
CNT
Telop : Red
7 : Vol 20
8 : Vol 30
9 : Vol 40
0 : Vol 0
or
MUTE
VOL
PIONEER
ⓐ
ⓑ
1 : COLOR
2 : TINT
3 : CONTRAST
4 : BRIGHT
5 : SHARPNESS
Cyclically
CNT
MIN
MAX
①

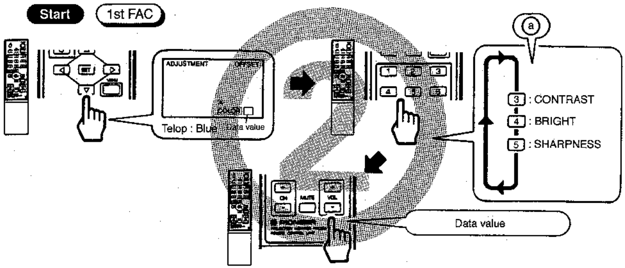
Note : Press when the Telop is not Red.

TINT		SHARPNESS
CNT	: Center	: Center
MIN	: The color to purple	: Sharp
MAX	: The color to green	: Soft

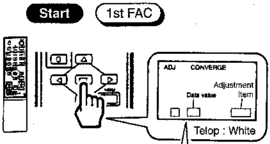
Note :
Bass, treble, and balance are only displayed and operated in this mode.

Adjustment OFFSET mode

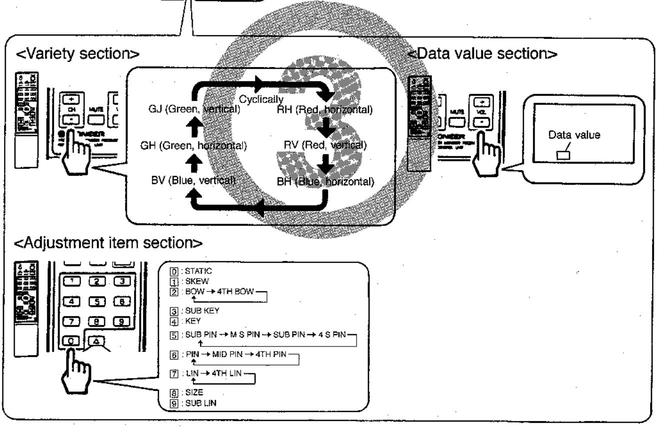
This mode is to set the standard picture quality for a normal picture.


Start
1st FAC
ADJUSTMENT
OFFSET
COLOR
Data value
Telop : Blue
ⓐ
3 : CONTRAST
4 : BRIGHT
5 : SHARPNESS
Data value

Convergence setting mode

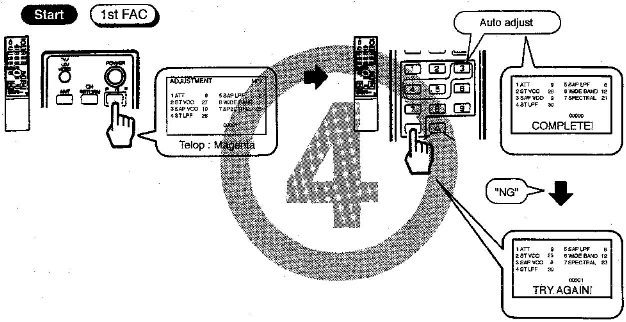

Start
1st FAC
ADJ
CONVERGE
Adjustment Item
Data value
Telop : White

Note :
When the remote controllor ▲ key is pressed from this sentting screen, the screen display looks like sentting mode, but senttings can not actually be made.

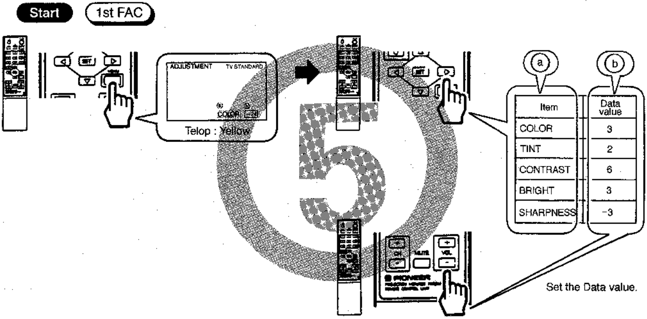

<Variety section>
Cyclically
GJ (Green, vertical)
RH (Red, horizontal)
GH (Green, horizontal)
RV (Red, vertical)
BV (Blue, vertical)
BH (Blue, horizontal)
<Data value section>
Data value
<Adjustment item section>
0 : STATIC
1 : SKEW
2 : BOW → 4TH BOW
3 : SUB KEY
4 : KEY
5 : SUB PIN → M S PIN → SUB PIN → 4 S PIN
6 : PIN → MID PIN → 4TH PIN
7 : LIN → 4TH LIN
8 : SIZE
9 : SUB LIN

Adjustment MPX mode

For adjusting the TV tuner MPX decoder section


Start
1st FAC
ADJUSTMENT MPX
1 ATT 9 5 SAP LPF 6
2 ST VCO 27 6 WIDE BAND 12
3 SAP VCO 10 7 SPECTRAL 23
4 ST LPF 26
00001
Telop : Magenta
Auto adjust
1 ATT 9 5 SAP LPF 6
2 ST VCO 29 6 WIDE BAND 12
3 SAP VCO 9 7 SPECTRAL 21
4 ST LPF 30
00000
COMPLETE!
"NG"
1 ATT 9 5 SAP LPF 6
2 ST VCO 25 6 WIDE BAND 12
3 SAP VCO 8 7 SPECTRAL 23
4 ST LPF 30
00001
TRY AGAIN!

TV standard mode

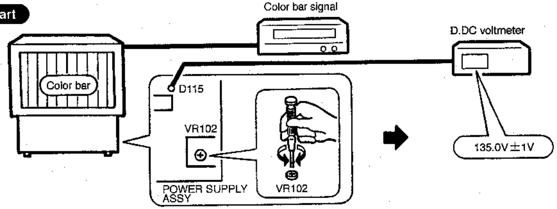

Start
1st FAC
ADJUSTMENT TV STANDARD
ⓐ ⓑ
COLOR 3
Telop : Yellow
ⓐ
ⓑ

Item	Data value
COLOR	3
TINT	2
CONTRAST	6
BRIGHT	3
SHARPNESS	-3

Set the Data value.

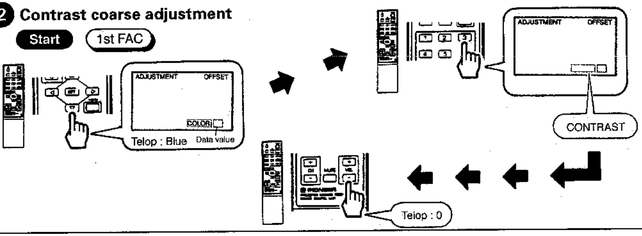
❶ 135V Power supply adjustment

Start


Color bar signal
D.DC voltmeter
Color bar
D115
VR102
POWER SUPPLY ASSY
VR102
135.0V±1V

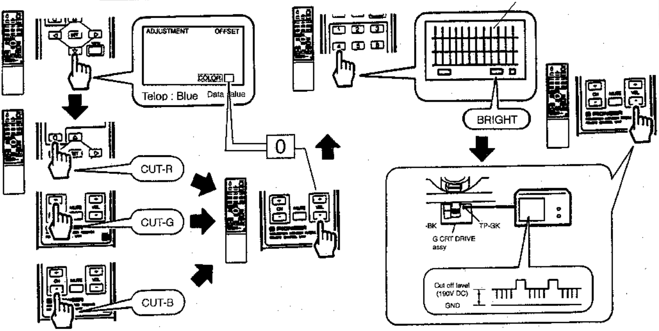
❷ Contrast coarse adjustment

Start **1st FAC**


ADJUSTMENT
OFFSET
COLOR
Telop : Blue
Data value
ADJUSTMENT
OFFSET
CONTRAST
Telop : 0

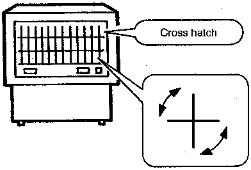
❸ Brightness adjustment (PIONEER' S standard settings)

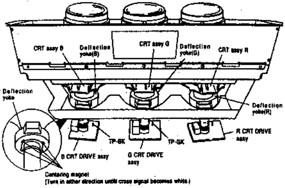
Start **1st FAC**


ADJUSTMENT
OFFSET
COLOR
Telop : Blue
Data value
0
CUT-R
CUT-G
CUT-B
Cross hatch
BRIGHT
BK
TP-GK
G CRT DRIVE assy
Cut off level (190V DC)
GND

④ Deflection yoke lean adjustment

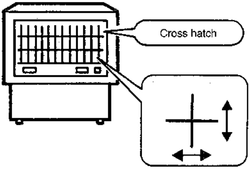
Start


Cross hatch

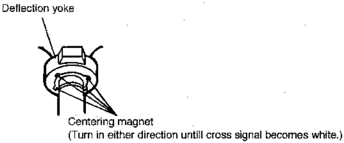

CRT assy B
Deflection yoke(B)
CRT assy G
Deflection yoke(G)
CRT assy R
Deflection yoke
Deflection yoke(R)
TP-GK
TP-GK
R CRT DRIVE assy
B CRT DRIVE assy
G CRT DRIVE assy
Centering magnet
(Turn in either direction untill cross signal becomes white.)

⑤ Screen center adjustment

Start

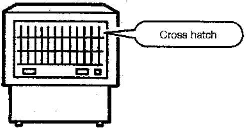

Cross hatch

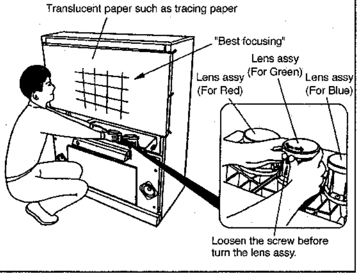
- For red or blue adjustment, turn 1st FACTORY ADJ mode ON and then OFF to place the convergence POSITION at the center of the adjustable range.
- Move the centering magnet of the deflection yoke for the replaced color so that the horizontal and vertical lines at the center of the screen align with the lines for a color not replaced.


Deflection yoke
Centering magnet
(Turn in either direction untill cross signal becomes white.)

⑥ Focus adjustment of lens assembly

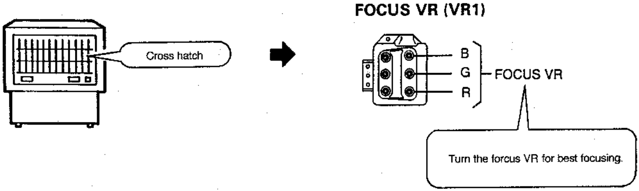
Start


Cross hatch


Translucent paper such as tracing paper
"Best focusing"
Lens assy (For Red)
Lens assy (For Green)
Lens assy (For Blue)
Loosen the screw before turn the lens assy.

⑦ Focus VR adjustment

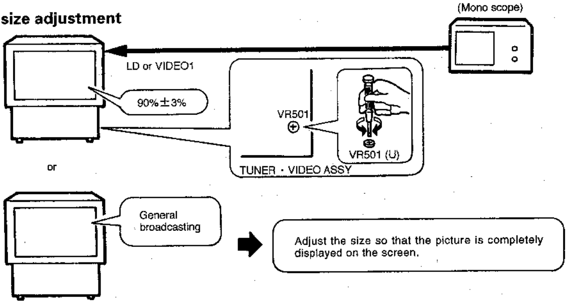
Start


Cross hatch
FOCUS VR (VR1)
B
G
R
FOCUS VR

Turn the forcus VR for best focusing.

⑧ Vertical size adjustment

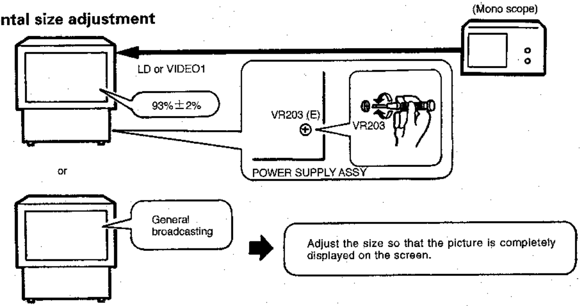
Start


(Mono scope)
LD or VIDEO1
90%±3%
VR501
VR501 (U)
TUNER · VIDEO ASSY
or
General broadcasting

Adjust the size so that the picture is completely displayed on the screen.

⑨ Horizontal size adjustment

Start


(Mono scope)
LD or VIDEO1
93%±2%
VR203 (E)
VR203
POWER SUPPLY ASSY
or
General broadcasting

Adjust the size so that the picture is completely displayed on the screen.

⑩ Convergence adjustment

⑩-1 Green line adjustment (1st FAC)

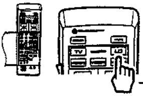
- Adjustment in the horizontal direction

Start

- See P.5 "Convergence setting mode".
- Input cross-hatch signals to this device's video input terminal.

Note:

The convergence for this device must be adjusted for tach screen size natural wide, full, zoom and cinema wide.

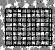
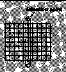
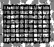
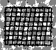
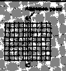
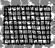
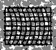
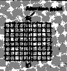
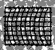
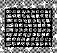
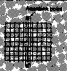
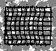
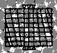
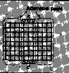
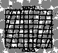
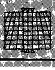
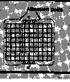
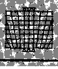


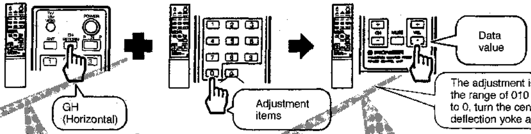
LD
↓
TV → VIDEO1
Green only

In particular, be aware of the setting before adjustment.

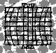
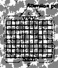
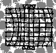
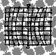
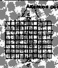
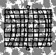
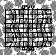
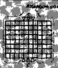
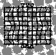
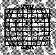
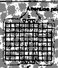
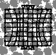
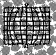
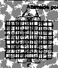
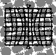
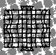
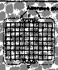
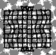
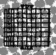
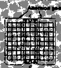
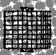
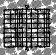
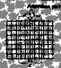
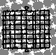
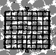
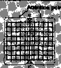
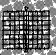
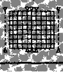
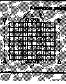
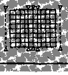
Repeat the adjustments until you attain the optimum state.

Fine-adjust over the entire picture to obtain the optimum picture.

	Adjustment item	Cross hatch picture			Adjustment point
		Deviated	Optimum	Deviated	
Center-line adjustment	GH-STATIC				Make the wavy center vertical line a straight line.
	GH-SKEW				Move the center vertical line to align it with the reference green line.
	GH-BOW				Eliminate tilt of the center vertical line.
	GH-4TH BOW				Make the wavy center vertical line a straight line.
Lean adjustment	GH-SUB KEY				Eliminate tilt of vertical lines.
	GH-KEY				

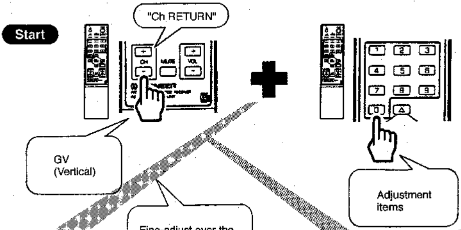

GH
(Horizontal)
Adjustment items
Data value

The adjustment is not possible within the range of 010 to-010, set the data value to 0, turn the centering magnet of the deflection yoke and fine-adjust H-STATIC.

Adjustment item		Cross-hatch picture Deviated	 Optimum	 Deviated	Adjustment point
Distortion adjustment	GH-SUB PIN		 Attention point		Make the vertical lines straight free of deformation.
	GH-MS PIN		 Attention point		
	GH-4S PIN		 Attention point		
	GH-PIN		 Attention point		
	GH-MID PIN		 Attention point		
	GH-4TH PIN		 Attention point		
Line-interval adjustment	GH-LIN		 Attention point		Make the intervals between the vertical lines vertically symmetrical and the correct size.
	GH-4TH LIN		 Attention point		
	GH-SIDE		 Attention point		
	GH-SUB LIN		 Attention point		

⑩-2 Green line adjustment (1st FAC)

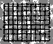
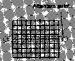
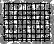
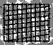
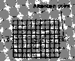
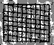
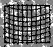
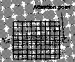
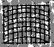
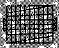
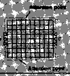
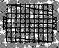
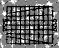
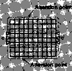
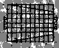
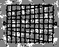
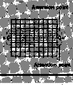
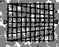
- Adjustment in the vertical direction

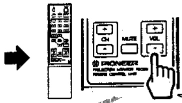

Start
"Ch RETURN"
GV
(Vertical)
Adjustment items

In particular, be aware of the setting before adjustment.

Fine-adjust over the entire picture to obtain the optimum picture.

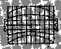
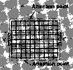
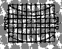
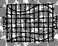
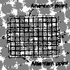
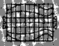
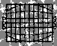
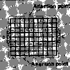
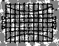
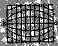
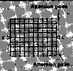
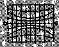
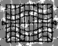
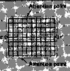
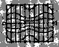
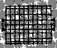
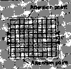
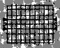
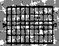
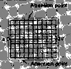
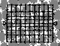
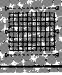
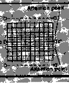
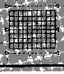
Repeat the adjustments until you attain the optimum state.

	Adjustment item	Cross-hatch picture			Adjustment point
		Deviated	Optimum	Deviated	
Center-line adjustment	GV-STATIC		 Attention point		Make the wavy center horizontal line a straight line.
	GV-SKEW		 Attention point		Move the center horizontal line to align it with the reference green line.
	GV-BOW		 Attention point		Eliminate tilt of the center horizontal line.
Lean adjustment	GV-SUB KEY		 Attention point Attention point		Eliminate tilt of horizontal lines.
	GV-KEY		 Attention point Attention point		
	GV-MID KEY		 Attention point Attention point		


CH
MUTE
VOL
PIONEER

Data value

The adjustment is not possible set the data value to 0, turn the centering magnet of the defelection yoke and fine-adjust H-STATIC.

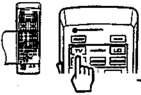
Adjustment item		Cross-hatch picture			Adjustment point
		Deviated	Optimum	Deviated	
Distortion adjustment	GV-SUB PIN		 Attention point Attention point		Make the horizontal lines straight lines free of deformation.
	GV-SC PIN		 Attention point Attention point		
	GV-PIN		 Attention point Attention point		
	GV-MID PIN		 Attention point Attention point		
	GV-4TH PIN		 Attention point Attention point		
Line-interval adjustment	GV-LIN		 Attention point Attention point		Make the intervals between the horizontal lines vertically symmetrical and the correct size.
	GV-SIZE		 Attention point Attention point		
	GV-SUB LIN		 Attention point Attention point		

⑩-3 Red line adjustment (1st FAC)

- Adjustment in the horizontal direction

Start

- ● See P.5 "Convergence setting mode".
- ● Input cross-hatch signals to this device's video input terminal.

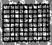
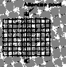
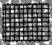
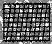
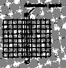
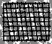
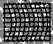
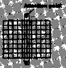
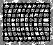
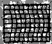
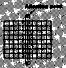
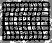
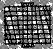
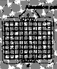
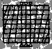
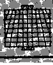
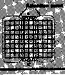
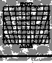


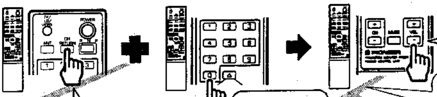
→ TV
Green + Red

In particular, be aware of the setting before adjustment.

Repeat the adjustments until you attain the optimum state.

Fine-adjust over the entire picture to obtain the optimum picture.

Adjustment item		Cross-hatch picture			Adjustment point
		Deviated	Optimum	Deviated	
Center-line adjustment	RH-STATIC				Make the wavy center vertical line a straight line.
	RH-SKEW				Move the center vertical line to align it with the reference green line.
	RH-BOW				Eliminate tilt of the center vertical line.
	RH-4TH BOW				Make the wavy center vertical line a straight line.
Lean adjustment	RH-SUB KEY				Eliminate tilt of vertical lines.
	RH-KEY				

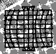
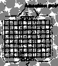
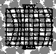
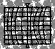
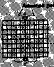
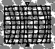
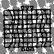
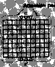
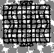
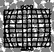
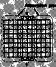
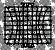
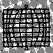
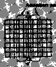
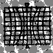
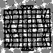
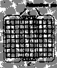
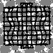
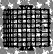
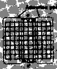
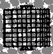
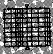
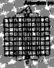
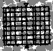
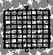
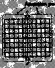
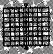
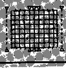
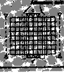
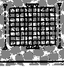


RH
(Horizontal)

Adjustment item

Data value

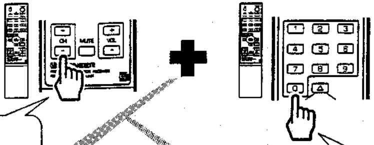
The adjustment is not possible within the range of 010 to-010, set the data value to 0, turn the centering magnet of the deflection yoke and fine-adjust H-STATIC.

Adjustment item		Cross-hatch picture			Adjustment point
		Deviated	Optimum	Deviated	
Distortion adjustment	RH-SUB PIN				Make the vertical lines straight free of deformation.
	RH-MS PIN				
	RH-4S PIN				
	RH-PIN				
	RH-MID PIN				
	RH-4TH PIN				
Line interval adjustment	RH-LIN				Make the intervals between the vertical lines vertically symmetrical and the correct size.
	RH-4TH LIN				
	RH-SIDE				
	RH-SUB LIN				

⑩-4 Red line adjustment (1st FAC)

- Adjustment in the vertical direction

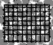
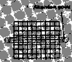
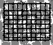
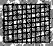
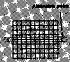
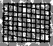
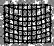
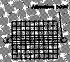
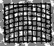
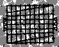
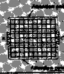
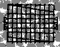
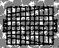
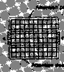
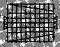
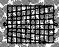
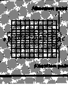
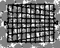
Start

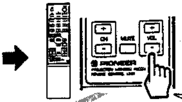


In particular, be aware of the setting before adjustment.

Fine-adjust over the entire picture to obtain the optimum picture.

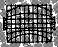
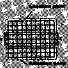
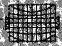
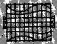
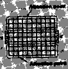
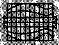
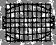
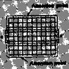
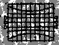
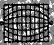
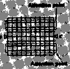
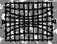
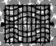
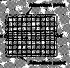
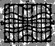
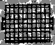
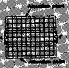
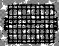
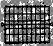
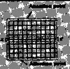
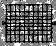
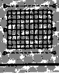
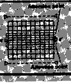
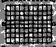
Repeat the adjustments until you attain the optimum state.

	Adjustment item	Cross-hatch picture			Adjustment point
		Deviated	Optimum	Deviated	
Center-line adjustment	RV-STATIC	 ⇔	 ⇔		Make the wavy center horizontal line a straight line.
	RV-SKEW	 ⇔	 ⇔		Move the center horizontal to align it with the reference green line.
	RV-BOW	 ⇔	 ⇔		Eliminate tilt of the center horizontal line.
Lean adjustment	RV-SUB KEY	 ⇔	 ⇔		Eliminate tilt of horizontal lines.
	RV-KEY	 ⇔	 ⇔		
	RV-MID KEY	 ⇔	 ⇔		



Data value

The adjustment is not possible within the range of 010 to-010, set the data value to 0, turn the centering magnet of the deflection yoke and fine-adjust H-STATIC.

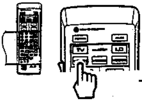
	Adjustment item	Cross-hatch picture			Adjustmant point
		Deviated	Optimum	Deviated	
Distortion adjustment	RV-SUB PIN				Make the horizontal lines straight free of deformation.
	RV-SC PIN				
	RV-PIN				
	RV-MID PIN				
	RV-4TH PIN				
Line-interval adjustment	RV-LIN				Make the intervals between the horizontal lines vertically symmetrical and the correct
	RV-SIZE				
	RV-SUB LIN				

⑩-5 Blue line adjustment (1st FAC)

- Adjustment in the horizontal direction

Start

- See P.5 "Convergence setting mode".
- Input cross-hatch signals to this device's video input terminal.

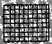
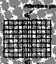
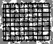
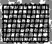
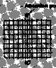
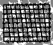
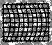
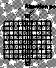
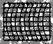
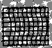
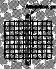
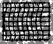
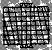
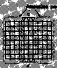
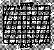
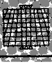
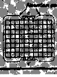
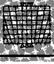


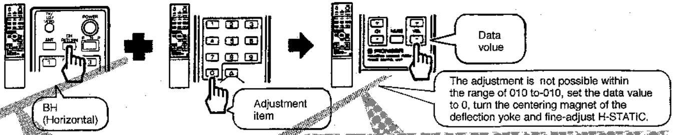
To output green+red+blue

In particular, be aware of the setting before adjustment.

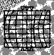
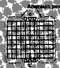
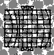
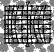
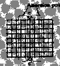
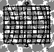
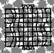
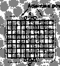
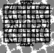
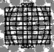
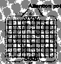
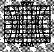
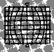
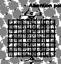
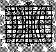
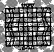
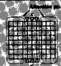
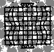
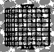
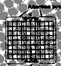
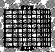
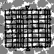
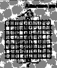
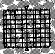
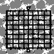
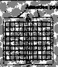
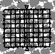
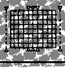
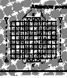
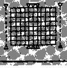
Repeat the adjustments until you attain the optimum state.

Fine-adjust over the entire picture to obtain the optimum picture.

Adjustment item		Cross-hatch picture			Adjustment point
		Deviated	Optimum	Deviated	
Center-line adjustment	BH-STATIC				Make the wavy center vertical line a straight line.
	BH-SKEW				Move the center vertical to align it with the reference green line.
	BH-BOW				Eliminate tilt of the center vertical line.
	BH-4TH BOW				Make the wavy center vertical line a straight line.
Lean adjustment	BH-SUB KEY				Eliminate tilt of vertical lines.
	BH-KEY				



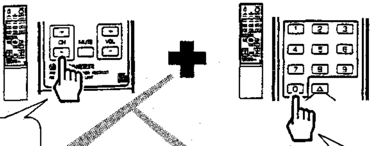
The adjustment is not possible within the range of 010 to-010, set the data value to 0, turn the centering magnet of the deflection yoke and fine-adjust H-STATIC.

Adjustment item		Cross-hatch picture			Adjustment point
		Deviated	Optimum	Deviated	
Distortion adjustment	BH-SUB PIN				Make the vertical lines straight free of deformation.
	BH-MS PIN				
	BH-4S PIN				
	BH-PIN				
	BH-MID PIN				
	BH-4TH PIN				
Line interval adjustment	BH-LIN				Make the intervals between the vertical lines vertically symmetrical and the correct size.
	BH-4TH LIN				
	BH-SIDE				
	BH-SUB LIN				

⑩-6 Blue line adjustment (1st FAC)

- Adjustment in the vertical direction

Start



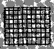
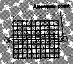
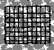
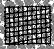
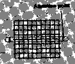
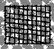
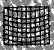
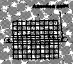
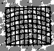
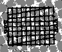
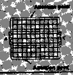
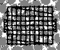
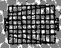
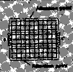
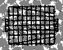
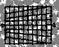
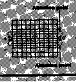
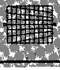
BV (Vertical)

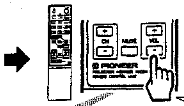
Adjustment item

In particular, be aware of the setting before adjustment.

Fine-adjust over the entire picture to obtain the optimum picture.

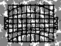
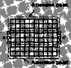
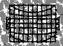
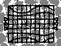
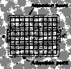
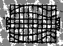
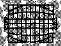
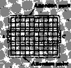
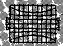
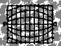
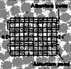
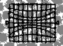
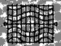
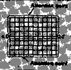
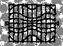
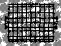
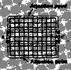
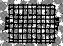
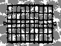
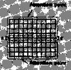
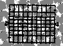
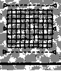
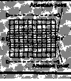
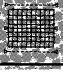
Repeat the adjustments until you attain the optimum state.

	Adjustment item	Cross-hatch picture			Adjustment point
		Deviated	Optimum	Deviated	
Center-line adjustment	BV-STATIC				Make the wavy center horizontal line a straight line.
	BV-SKEW				Move the center horizontal to align it with the reference green line.
	BV-BOW				Eliminate tilt of the center horizontal line.
Lean adjustment	BV-SUB KEY				Eliminate tilt of horizontal lines.
	BV-KEY				
	BV-MID KEY				



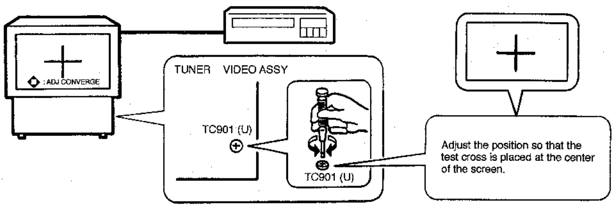
Data value

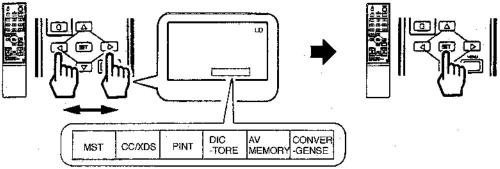
The adjustment is not possible within the range of 010 to-010, set the data value to 0, turn the centering magnet of the deflection yoke and fine-adjust H-STATIC.

	Adjustment item	Cross-hatch picture			Adjustment point
		Deviated	Optimum	Deviated	
Distortion adjustment	BV-SUB PIN		 Attention point Attention point		Make the horizontal lines straight free of deformation.
	BV-SC PIN		 Attention point Attention point		
	BV-PIN		 Attention point Attention point		
	BV-MID PIN		 Attention point Attention point		
	GV-4TH PIN		 Attention point Attention point		
Line-interval adjustment	GV-LIN		 Attention point Attention point		Make the intervals between the horizontal lines vertically symmetrical and the correct size.
	GV-SIZE		 Attention point Attention point		
	GV-SUB LIN		 Attention point Attention point		

⑪ Test cross H-center position adjustment

Start

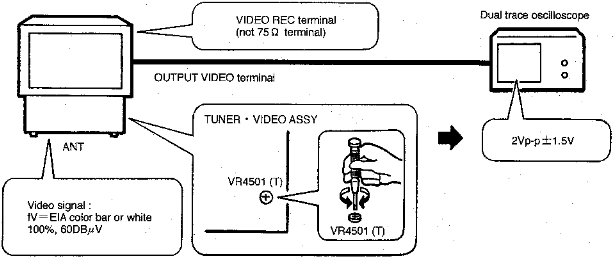

(LD player)
: ADJ CONVERGE
TUNER VIDEO ASSY
TC901 (U)
TC901 (U)
Adjust the position so that the test cross is placed at the center of the screen.


LD
MST
CC/XDS
PINT
DIC -TORE
AV MEMORY
CONVER -GENSE

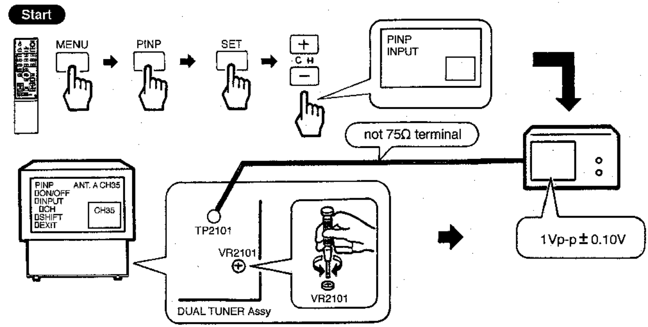
⑫ Tuner block adjustment

⑫-1 Video level adjustment

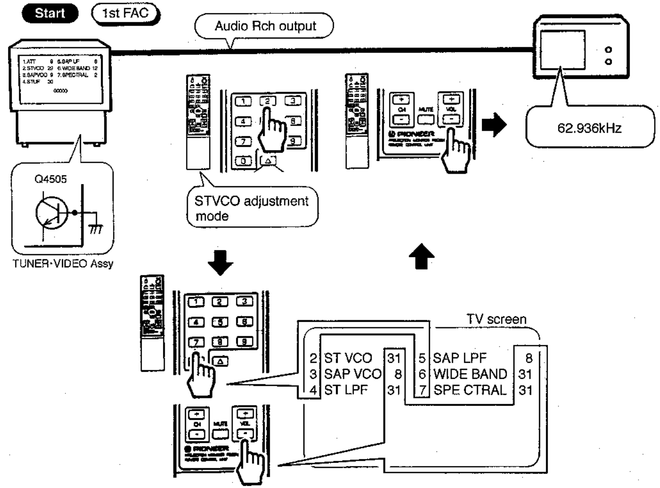
Start


VIDEO REC terminal (not 75 Ω terminal)
Dual trace oscilloscope
OUTPUT VIDEO terminal
TUNER・VIDEO ASSY
ANT
VR4501 (T)
VR4501 (T)
2Vp-p±1.5V
Video signal : fV=EIA color bar or white 100%, 60DBμV

⓬-2 Video level adjustment ②

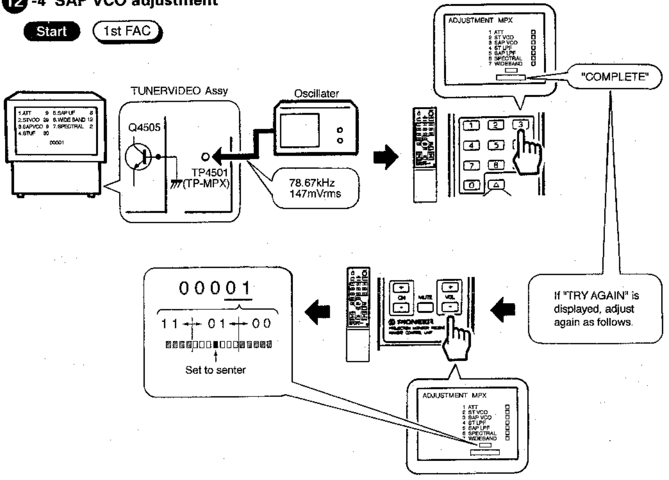

Start
MENU
PINP
SET
+
CH
−
PINP
INPUT
not 75Ω terminal
PINP ANT. A CH35
ON/OFF
INPUT
CH
SHIFT
EXIT
CH35
TP2101
VR2101
VR2101
DUAL TUNER Assy
1Vp-p ± 0.10V

⓬-3 Stereo VCO adjustment


Start
1st FAC
Audio Rch output
1.ATT 9 5.SAP LF 8
2.STVCO 23 6.WIDE BAND 12
3.SAPVCO 9 7.SPECTRAL 2
4.STLF 30
00000
Q4505
TUNER·VIDEO Assy
STVCO adjustment mode
62.936kHz
CH
MUTE
VOL
PIONEER
TV screen
2 ST VCO 31
3 SAP VCO 8
4 ST LPF 31
5 SAP LPF 8
6 WIDE BAND 31
7 SPE CTRAL 31

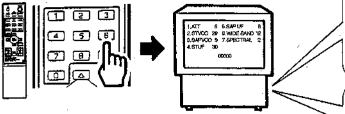
⑫-4 SAP VCO adjustment

Start (1st FAC)


1.ATT 9
5.SAP LPF 8
2.STVCO 29
6.WIDE BAND 12
3.SAPVCO 9
7.SPECTRAL 2
4.STLPF 30
00001
TUNERVIDEO Assy
Q4505
TP4501
(TP-MPX)
Oscillater
78.67kHz
147mVrms
ADJUSTMENT MPX
1 ATT
2 ST VCO
3 SAP VCO
4 ST LPF
5 SAP LPF
6 SPECTRAL
7 WIDEBAND
"COMPLETE"
If "TRY AGAIN" is displayed, adjust again as follows.
00001
11
01
00
Set to senter

⑫-5 Separation adjustment (WIDE BAND)

Start (1st FAC)


1 2 3
4 5 6
7 8 9
0
1.ATT 8 5.SAP LF 8
2.STVCO 29 6.WIDE BAND 12
3.SAPVCO 9 7.SPECTRAL 2
4.STUF 30
00000

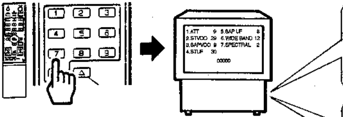
Adjust the output of the OUTPUT REC tarminal on the rear panel to the minimum level.

Rch level - Lch input ⟶ minimum
Lch level - Rch input ⟶ minimum

Video signal : fv = EIA color bar, 60dBμV
Audio signal : fA = 300Hz, 100% MOD, Lcl (or Rch) only, 54dBμV

⑫-6 Separation adjustment (SPECTRAL)

Start (1st FAC)

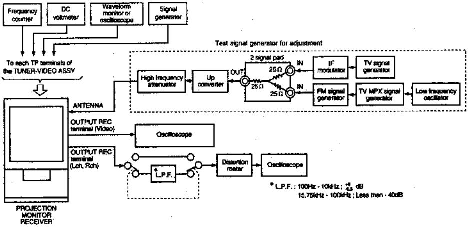

1 2 3
4 5 6
7 8 9
1.ATT 9 5.SAP LF 8
2.STVCO 29 6.WIDE BAND 12
3.SAPVCO 9 7.SPECTRAL 2
4.STUF 30
00000

Adjust the output of the OUTPUT REC tarminal on the rear panel to the minimum level.

Rch level - Lch input ⟶ minimum
Lch level - Rch input ⟶ minimum

Video signal : fv = EIA color bar, 60dBμV
Audio signal : fA = 5kHz, 100% MOD, Lch (or Rch) only, 54dBμV

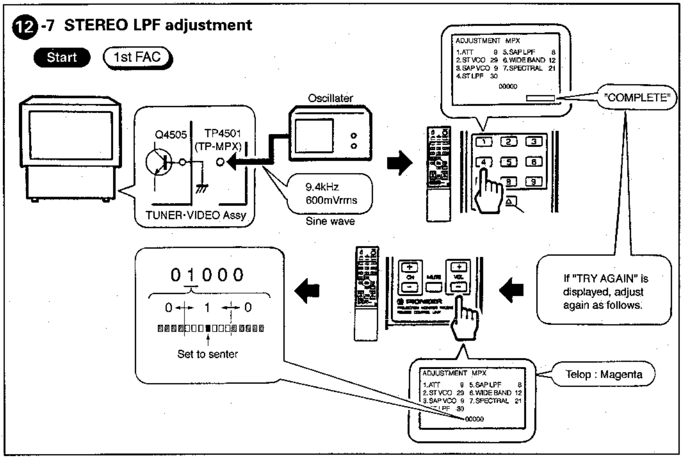
● Connection diagram for adjusting the tuner section:


Frequency counter
DC voltmeter
Waveform monitor or oscilloscope
Signal generator
To each TP terminals of the TUNER-VIDEO ASSY
Test signal generator for adjustment
2 signal pad
IN
OUT
25Ω
25Ω
25Ω
IN
High frequency attenuator
Up converter
IF modulator
TV signal generator
FM signal generator
TV MPX signal generator
Low frequency oscillator
ANTENNA
OUTPUT REC terminal (Video)
Oscilloscope
OUTPUT REC terminal (Lch, Rch)
*L.P.F.
Distortion meter
Oscilloscope
PROJECTION MONITOR RECEIVER
* L.P.F. : 100Hz - 10kHz ; +0 -0.5 dB
15.75kHz - 100kHz ; Less than - 40dB

● NOTE :

- Repeat step ⑫-5 and ⑫-6 till the best separation
- When performing the separation adjustment, be sure to perform WIDE BAND adjustment first.
- If perfirming the WIDE BAND adjustment, be sure to porform SPECTRAL adjustment.

⑫-7 STEREO LPF adjustment

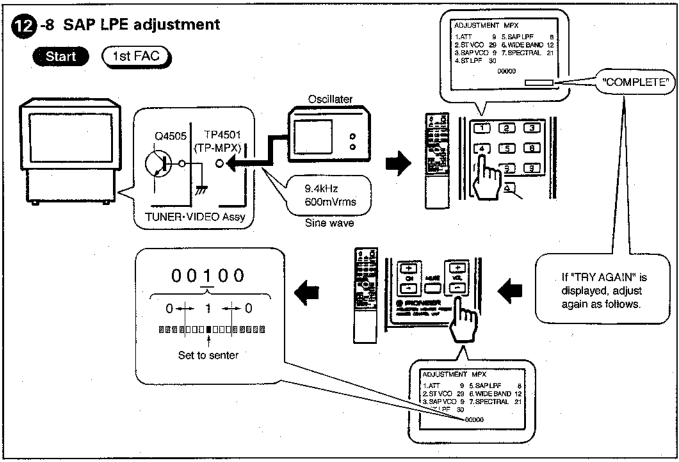

Start
1st FAC
ADJUSTMENT MPX
1.ATT 9 5.SAP LPF 8
2.ST VCO 29 6.WIDE BAND 12
3.SAP VCO 9 7.SPECTRAL 21
4.ST LPF 30
00000
"COMPLETE"
Oscillater
Q4505
TP4501
(TP-MPX)
TUNER·VIDEO Assy
9.4kHz
600mVrms
Sine wave
1
2
3
4
5
6
8
9
CH
MUTE
VOL
PIONEER
01000
0
1
0

If "TRY AGAIN" is displayed, adjust again as follows.

Set to senter

Telop : Magenta

⑫-8 SAP LPE adjustment

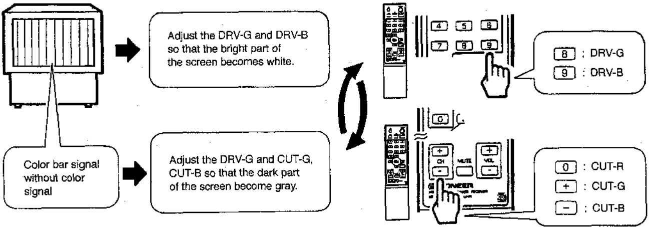

Start
1st FAC
ADJUSTMENT MPX
1.ATT 9 5.SAP LPF 8
2.ST VCO 29 6.WIDE BAND 12
3.SAP VCO 9 7.SPECTRAL 21
4.ST LPF 30
00000
"COMPLETE"
Oscillater
Q4505
TP4501
(TP-MPX)
TUNER·VIDEO Assy
9.4kHz
600mVrms
Sine wave
1
2
3
4
5
6
8
9
CH
MUTE
VOL
PIONEER
00100
0
1
0

If "TRY AGAIN" is displayed, adjust again as follows.

Set to senter

⑬ White balance adjustment

Start 1st FAC


Adjust the DRV-G and DRV-B so that the bright part of the screen becomes white.

Color bar signal without color signal

Adjust the DRV-G and CUT-G, CUT-B so that the dark part of the screen become gray.

8 : DRV-G
9 : DRV-B

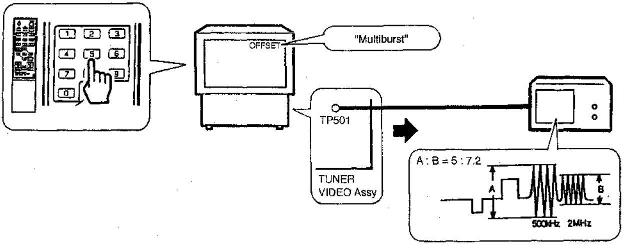
0 : CUT-R
+ : CUT-G
− : CUT-B

4
5
6
7
8
9
0
CH
MUTE
VOL
+
−

⑭ PIONEER'S standard settings

⑭-1 Sharpness adjustment

Start 1st FAC ← Telop : Bule

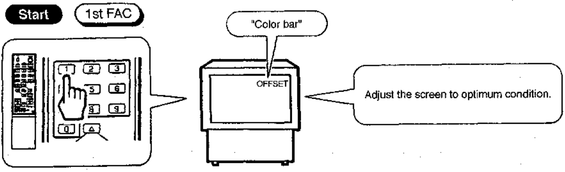

"Multiburst"

A : B = 5 : 7.2

1
2
3
4
5
6
7
9
0
OFFSET
TP501
TUNER
VIDEO Assy
A
B
500kHz
2MHz

⑭-2 Color adjustment

Start 1st FAC

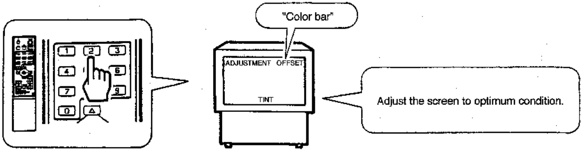

"Color bar"

Adjust the screen to optimum condition.

1
2
3
5
6
8
9
0
OFFSET

⑭-3 Tint adjustment

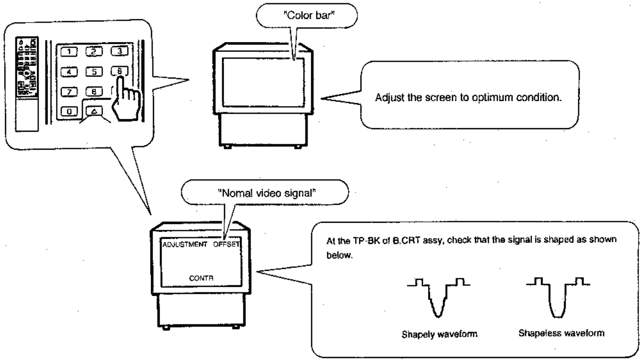
Start 1st FAC


"Color bar"
ADJUSTMENT OFFSET
TINT
1
2
3
4
6
7
9
0
△

Adjust the screen to optimum condition.

⑭-4 Contrast adjustment

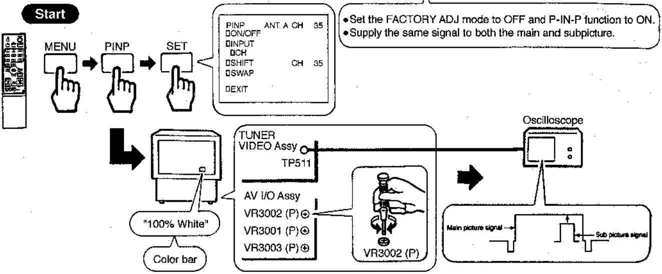
Start 1st FAC


"Color bar"
1
2
3
4
5
6
7
8
0
△
"Nomal video signal"
ADJUSTMENT OFFSET
CONTR
Shapely waveform
Shapeless waveform

Adjust the screen to optimum condition.

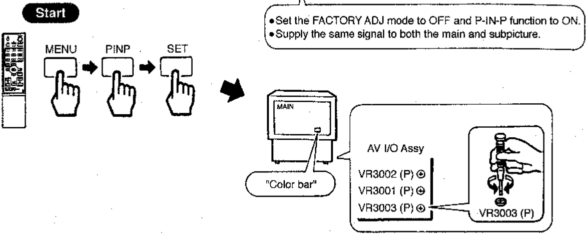
At the TP-BK of B.CRT assy, check that the signal is shaped as shown below.

⑮ Y-signal level adjustment of sub-picture (adjustment for pinp)


Start
MENU
PINP
SET
PINP ANT. A CH 35
□ON/OFF
□INPUT
□CH
□SHIFT CH 35
□SWAP
□EXIT
Oscilloscope
TUNER
VIDEO Assy
TP511
AV I/O Assy
VR3002 (P)
VR3001 (P)
VR3003 (P)
VR3002 (P)
"100% White"
Color bar
Main picture signal
Sub picture signal

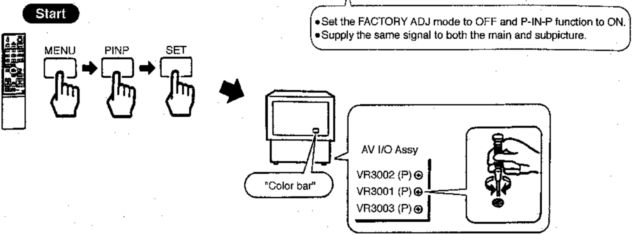
- Set the FACTORY ADJ mode to OFF and P-IN-P function to ON.
- Supply the same signal to both the main and subpicture.

⑯ TINT adjustment of sub-picture (adjustment for PINP)


Start
MENU
PINP
SET
MAIN
"Color bar"
AV I/O Assy
VR3002 (P)
VR3001 (P)
VR3003 (P)
VR3003 (P)

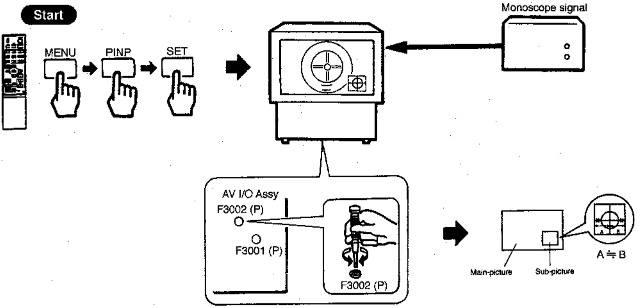
- Set the FACTORY ADJ mode to OFF and P-IN-P function to ON.
- Supply the same signal to both the main and subpicture.

⑰ Color level adjustment of sub-picture (adjustment for PINP)

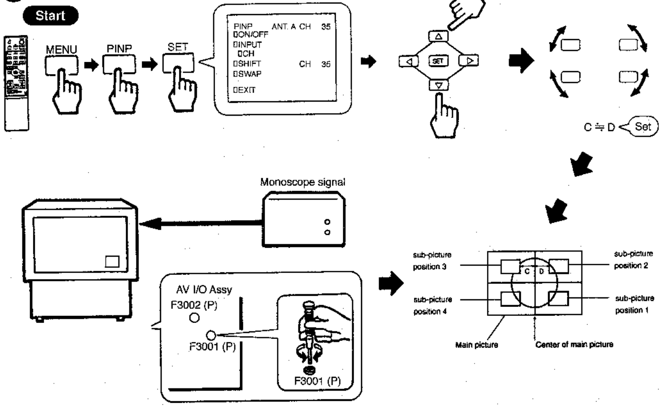

Start
MENU
PINP
SET
"Color bar"
AV I/O Assy
VR3002 (P)
VR3001 (P)
VR3003 (P)

- Set the FACTORY ADJ mode to OFF and P-IN-P function to ON.
- Supply the same signal to both the main and subpicture.

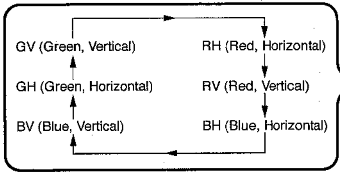
⑱ Write clock adjustment (adjustment for PINP)


Start
MENU
PINP
SET
Monoscope signal
AV I/O Assy
F3002 (P)
F3001 (P)
F3002 (P)
Main-picture
Sub-picture
A ≒ B

⑲ Read clock adjustment (adjustment for PINP)


Start
MENU
PINP
SET
PINP ANT. A CH 35
☐ON/OFF
☐INPUT
☐CH
☐SHIFT CH 35
☐SWAP
☐EXIT
SET
C ≒ D
Set
Monoscope signal
AV I/O Assy
F3002 (P)
F3001 (P)
F3001 (P)
sub-picture position 3
sub-picture position 2
sub-picture position 4
sub-picture position 1
C
D
Main picture
Center of main picture

■ Key indication of the remoto control


GV (Green, Vertical)
RH (Red, Horizontal)
GH (Green, Horizontal)
RV (Red, Vertical)
BV (Blue, Vertical)
BH (Blue, Horizontal)

(Adjustment items)

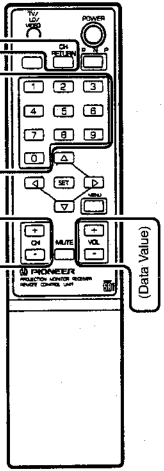
ADJUSTMENT RANGE	ADJUSTMENT OFFSET	KEYNAME	NV MERIC KEYS	ADJUSTMENT ITEMS	TYPE GH	TYPE GV	TYPE RH	TYPE RV	TYPE BH	TYPE BV
	○	CUT-R	⓪	STATIC			○	○	○	○
○		VOL0								
○		Color	①	SKEW		VR	○	○	○	○
○		TINT	②	BOW		VR	○	○	○	○
				4TH BOW			○		○	
○	○	Contrast	③	SUB KEY			○	○	○	○
○	○	Bright	④	KEY	VR	VR	○	○	○	○
				MID KEY				○		○
○	○	Sherpness	⑤	SUB PIN			○	○	○	○
				MS. PIN			○		○	
				4S PIN			○		○	
				SC PIN				○		○
			⑥	PIN	VR	VR	○	○	○	○
				MID PIN			○	○	○	○
				4TH PIN			○	○	○	○
○		VOL20	⑦	LIN			○	○	○	○
				4TH PIN			○		○	
○		VOL30	⑧	SIZE			○	○	○	○
	○	DRV-G								
○		VOL40	⑨	SUB LIN			○	○	○	○
	○	DRV-B								

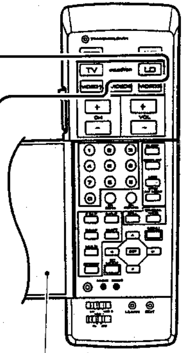
VR : Adjust GH, GV with semifixed VR

OFFSET → CH+ : CUT-G
CONVER → CH− : CUT-B

(To output red, green and bkue separately)

TV :To output red ON/OFF
LD :To output green ON/OFF
Video1 :To output blue ON/OFF


TV/LD/VIDEO
POWER
CH RETURN
1
2
3
4
5
6
7
8
9
0
SET
MENU
CH
MUTE
VOL
PIONEER
(Data Value)



(The upper cover is opened)

8. REPLACING THE CRT ASSY

Serviceman Warning
When replacing the CRT assy, turn off the power, unplug the AC plug and let the unit discharge for more than 1 minute.

The anode cables of the CRT assy R, G, and B in PROJECTION MONITOR RECEIVER are connected in series as shown in Fig. 1.
When replacing the CRT assy, the anode cable have to be cut.

Note: Since the anode cables for the CRT assy to service supplies are only available in half lengths, either cut longer lengths, or join older lengths of cable to ensure that the original cable length is used.

Table 1 Cable disconnecting methods

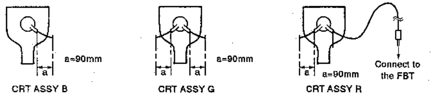
Cable	Replacement CRT assy		
	When CRT assy B is replaced	When CRT assy G is replaced	When CRT assy R is replaced
Cable ⓐ	——	——	Disconnect the anode cable from the FBT. (Refer to page 85.)
Cable ⓑ	Leave it as is	Cut a place 20mm from the exact center towards the CRT assy G	Cut a place 20mm from the exact center towards the CRT assy R
Cable ⓒ	Cut a place 20mm from the exact center towards the CRT assy B	Cut a place 20mm from the exact center towards the CRT assy G	Leave it as is

Note : Do not cut other cables by mistake.

8.1 WHEN REPLACING THE CRT ASSY

Unplug the AC plug and let the unit discharge for more than 1 minute, then cut the anode cable according to table 1.

Each CRT assy supplied as a spare part is as shown below.


a=90mm
a
CRT ASSY B
a=90mm
a
a
CRT ASSY G
a
a=90mm
Connect to
the FBT
CRT ASSY R

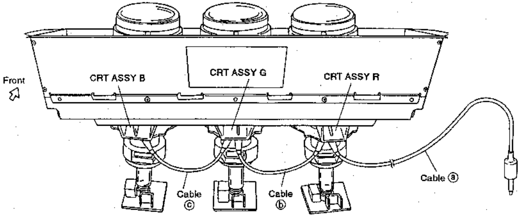
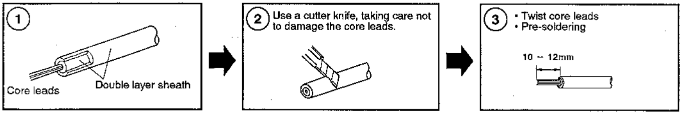

Front
CRT ASSY B
CRT ASSY G
CRT ASSY R
Cable ⓐ
Cable ⓒ
Cable ⓑ

Fig. 1 Connection diagram of the each CRT assemblies

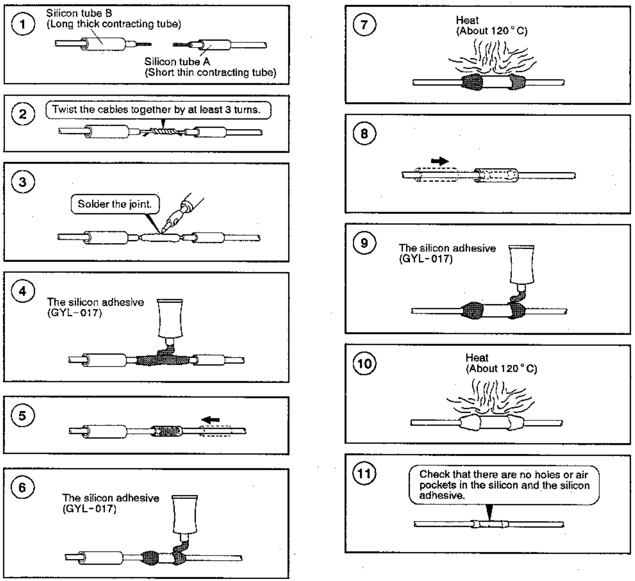
8.2 ANODE CABLE STRUCTURE AND SHEATH PEELING


①
Core leads
Double layer sheath
②
Use a cutter knife, taking care not to damage the core leads.
③
• Twist core leads
• Pre-soldering
10 ~ 12mm

8.3 ANODE CABLE JOINING PROCEDURE

The silicon tube is packed with CRT assy. For the silicon adhesive, be sure to use silicon adhesive part number GYL-017.

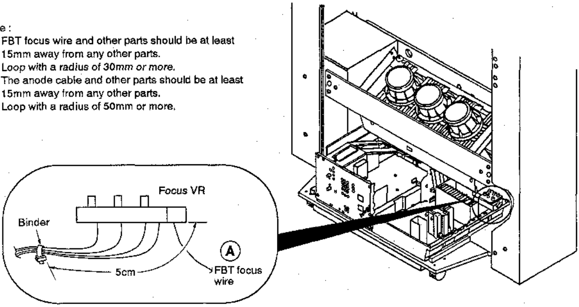
- **CAUTION** When connecting the anode cable, pay attention to the following.
- Take care not damage the anode cable sheath.
- Insulate the cable leads from other parts using the silicon adhesive and the silicon tube.
- Apply the silicon adhesive so that those are not air gaps.

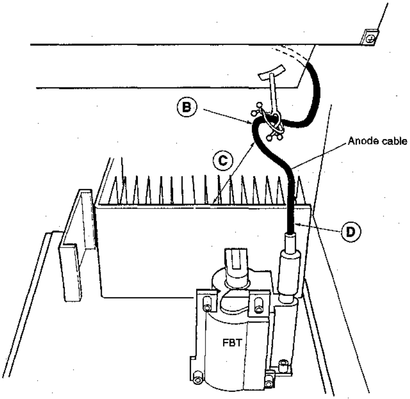

①
Silicon tube B
(Long thick contracting tube)
Silicon tube A
(Short thin contracting tube)
②
Twist the cables together by at least 3 turns.
③
Solder the joint.
④
The silicon adhesive
(GYL-017)
⑤
⑥
The silicon adhesive
(GYL-017)
⑦
Heat
(About 120°C)
⑧
⑨
The silicon adhesive
(GYL-017)
⑩
Heat
(About 120°C)
⑪
Check that there are no holes or air pockets in the silicon and the silicon adhesive.

9. WIRING DIAGRAM

Reconnect any disconnected lead wires of the Projection monitor receiver.
The important points for connection of the lead wires are as shown below.
You may find that they were connected differently. Be sure reconnect the lead wires as they were.

Note :
- Ⓐ: FBT focus wire and other parts should be at least 15mm away from any other parts.
- Ⓑ: Loop with a radius of 30mm or more.
- Ⓒ: The anode cable and other parts should be at least 15mm away from any other parts.
- Ⓓ: Loop with a radius of 50mm or more.





10. IC INFORMATION

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■PD5362B (TUNER•VIDEO ASSY : IC901)

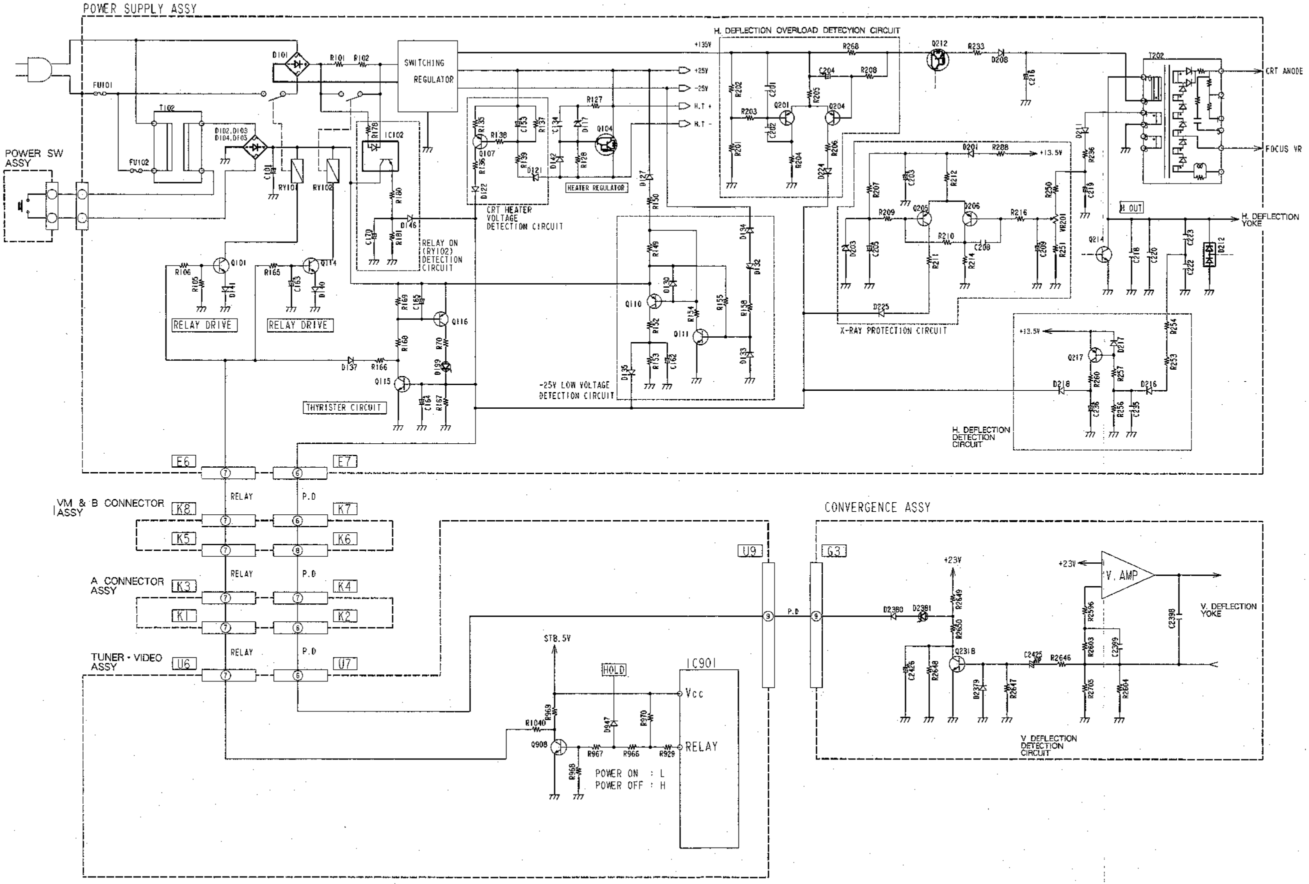
•System Control Microcomputer

● Pin Function

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
1	HSYNC	I	H. sync. signal input for CRT display	33	VCC	I	+5V power supply pin
2	VSYNC	I	V. sync. signal input for CRT display	34	P63/OSC1/XCIN	I	Input port / Clock input for CRT display
3	P40/AD4	I	7 bits input port / Analog input AD4 of AD converter	35	P64/OSC2/XCOUT	I/O	Input port / Clock output for CRT display
4	P41/INT2	I	7 bits input port / External interrupt INT2 input	36	$\overline{\text{RESET}}$	I	Reset input pin Reset when L is input for more than 2μsec.
5	P42/TIM2	I	7 bits input port / Timer clock TIM2 input	37	P31	I/O	2 bits input / output port
6	P43/TIM3	I	7 bits input port / Timer clock TIM3 input	38	P30	I/O	
7	P24/AD3	I/O	8 bits input/output port / Analog input AD1,2,3 of AD converter	39	P03	I/O	8 bits input / output port
8	P25/AD2	I/O		40	P16/I2/INT3	I/O	8 bits input/output port / External interrupt INT3 input
9	P26/AD1	I/O		41	P15/I1	I/O	8 bits input/output port /I1 pin
10	P27	I/O	8 bits input/output port	42	P14/SDA2	I/O	8 bits input/output port /SDA2 pin
11	P00/PWM4	I/O	8 bits input/output port / PWM4 output	43	P13/SDA1	I/O	8 bits input/output port /SDA1 pin
12	P50/PWM7	O	Output port / PWM7 output	44	P67	O	Output port
13	P01/PWM5	I/O	8 bits input/output port / PWM5 output	45	P12/SCL2	I/O	8 bits input/output port /SCL2 pin
14	P47	O	Output port	46	P66	O	Output port
15	P02/PWM6	I/O	8 bits input/output port / PWM6 output	47	P11/SCL1	I/O	8 bits input/output port /SCL1 pin
16	P51	O	Output port	48	P65	O	Output port
17	P17/SIN	I/O	8 bits input/output port / S input	49	P10/OUT2	I/O	8 bits input/output port /OUT2 pin
18	P32	O	Output port	50	P23	I/O	8 bits Input/Output port
19	P44/INT1	I	7 bits input port / External interrupt INT1 input	51	P22	I/O	
20	P56	O	Output port	52	P21	I/O	
21	P45/SOUT	I/O	7 bits input port / S output	53	P20	I/O	
22	P57	O	Output port	54	P62	O	Output port
23	P46/SCLK	I/O	7 bits input port / SCLK pin	55	P07/PWM3	I/O	8 bits input/output port / PWM output
24	AVCC	I	+5V power supply pin	56	P61	O	Output port
25	HLF	I	Connect a filter between HLF and VSS.	57	P06/PWM2	I/O	8 bits input/output port / PWM output
26	RVCO	I	Connect a resistor between RVCO and VSS.	58	P60	O	Output port
27	VHOLD	I	Connect a capacitor between VHOLD and VSS.	59	P05/PWM1	I/O	8 bits input/output port / PWM output
28	CVIN	I	Input Video signal with the coupling capacitor	60	P04/PWM0	I/O	
29	CNVSS	I	Connect to Vss	61	P55/OUT1	O	Output port / Color signal OUT1,R,G,B output for CRT display
30	XIN	I	Main clock generation circuit input/output Connect the ceramic or crystal oscillator.	62	P54/B	O	
31	XOUT	O		63	P53/G	O	
32	VSS	I	Supplies 0V to Vss	64	P52/R	O	

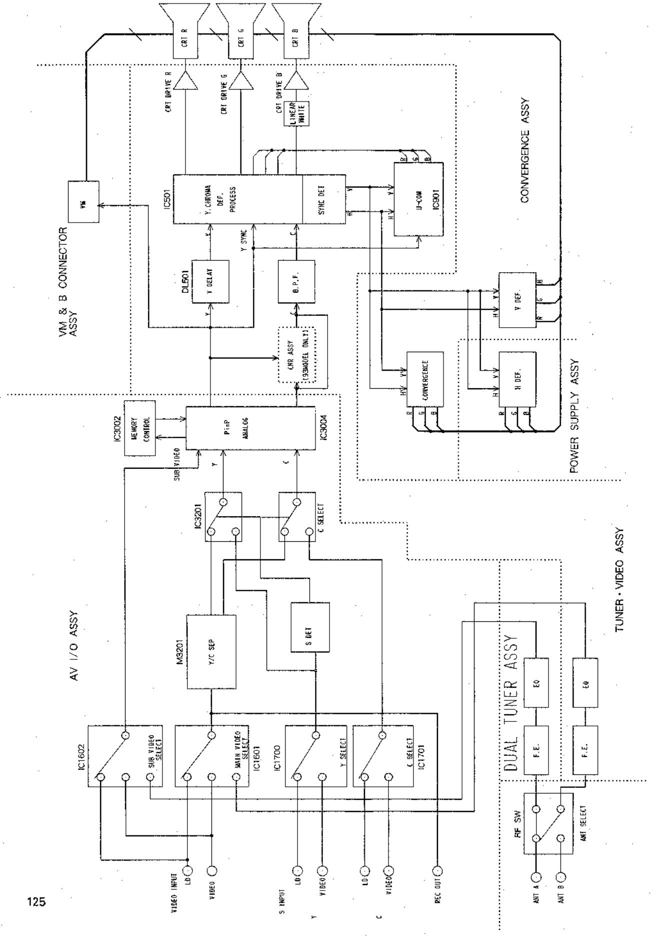
11. BLOCK DIAGRAM

11.1 PROTECTION BLOCK

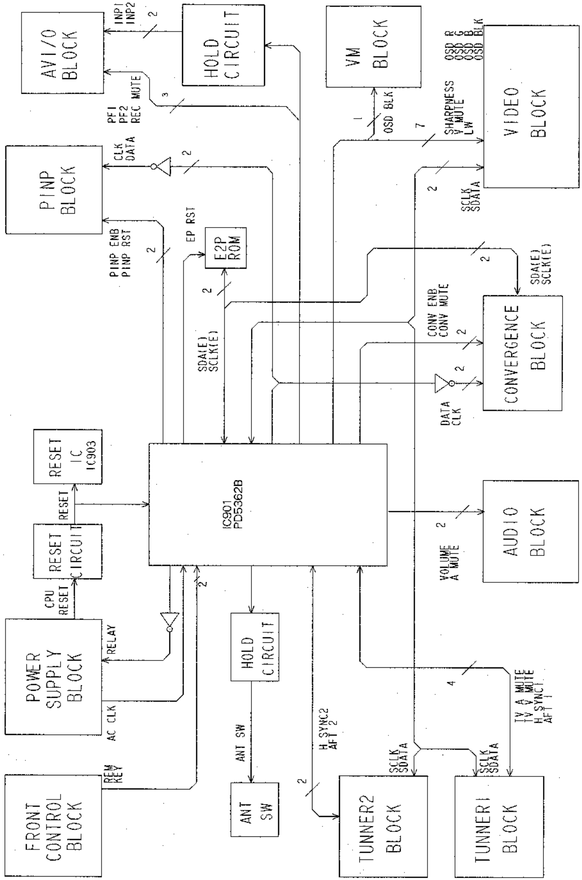

POWER SUPPLY ASSY
POWER SW ASSY
FU101
FU102
T102
D101
D102,D103
D104,D105
R101 R102
SWITCHING REGULATOR
RY101
RY102
IC102
R178
R180
R181
C170
D146
RELAY ON (RY102) DETECTION CIRCUIT
Q101
Q114
R106
R105
D141
R165
C163
D140
RELAY DRIVE
RELAY DRIVE
Q116
Q115
R169
C165
R168
R170
D139
R166
D137
C164
R167
THYRISTER CIRCUIT
Q107
R135
R136
R138
C153
R137
R139
D121
D122
CRT HEATER VOLTAGE DETECTION CIRCUIT
Q104
R127
C134
D117
D142
R128
HEATER REGULATOR
+25V
-25V
H.T +
H.T -
D127
R150
R149
D130
Q110
R152
R154
R155
Q111
R153
C162
D135
D134
D132
R158
D133
-25V LOW VOLTAGE DETECTION CIRCUIT
H. DEFLECTION OVERLOAD DETECYION CIRCUIT
+135V
R268
R202
C201
C204
R208
R205
Q201
Q204
R203
C202
R201
R204
R206
D224
Q212
R233
D208
C216
T202
CRT ANODE
FOCUS VR
D211
R236
D201
R288
+13.5V
R207
C203
R212
R209
Q205
Q206
R216
R250
C219
VR201
D203
C205
R210
C208
R211
R214
C209
R251
D225
X-RAY PROTECTION CIRCUIT
H OUT
H. DEFLECTION YOKE
Q214
C218
C220
C223
C222
D212
+13.5V
R254
Q217
D217
R253
D218
R260
R257
D216
C236
R256
C235
H. DEFLECTION DETECTION CIRCUIT
E6
E7
RELAY
P.D
VM & B CONNECTOR ASSY
K8
K7
K5
K6
A CONNECTOR ASSY
K3
K4
K1
K2
TUNER - VIDEO ASSY
U6
U7
STB.5V
HOLD
IC901
Vcc
RELAY
R969
R1040
Q908
D947
R970
R967
R966
R929
R968
POWER ON : L
POWER OFF : H
U9
G3
CONVERGENCE ASSY
P.D
+23V
+23V
V. AMP
D2380
D2381
R2649
R2650
Q2318
C2426
R2648
D2379
R2647
C2425
R2646
R2596
R2603
C2399
C2398
R2705
R2604
V. DEFLECTION YOKE
V. DEFLECTION DETECTION CIRCUIT

SD - P5191 - K, SD - P4691 - K, SD - P5193 - K

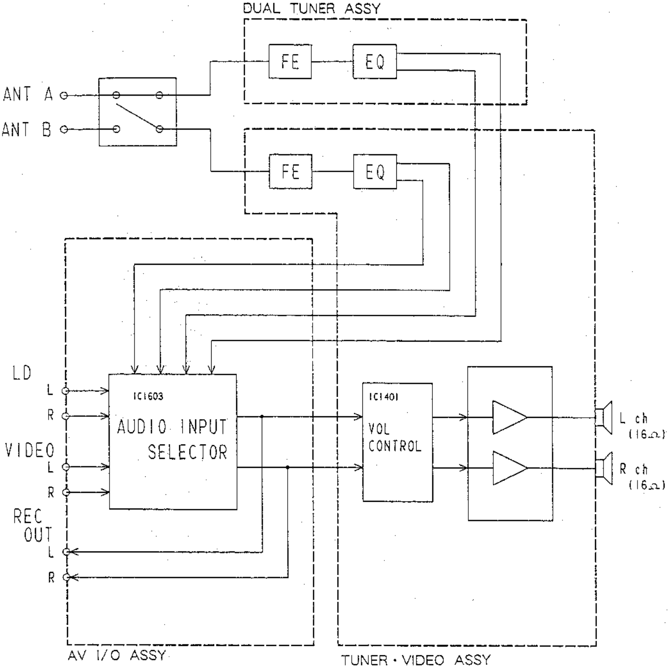
11.2 VIDEO BLOCK


CRT R
CRT G
CRT B
CRT DRIVE R
CRT DRIVE G
CRT DRIVE B
LINEAR WHITE
CONVERGENCE ASSY
IC501
Y. CHROMA DEF. PROCESS
SYNC DET
U-COM IC901
VM
VM & B CONNECTOR ASSY
DL501
Y DELAY
B.P.F.
Y SYNC
CNR ASSY (93MODEL ONLY)
V DEF.
H DEF.
CONVERGENCE
POWER SUPPLY ASSY
IC3002
MEMORY CONTROL
PinP ANALOG
IC3004
SUB VIDEO
IC3201
C SELECT
M3201
Y/C SEP
S DET
DUAL TUNER ASSY
EQ
F.E.
TUNER · VIDEO ASSY
AV I/O ASSY
IC1602
SUB VIDEO SELECT
MAIN VIDEO SELECT
IC1601
IC1700
Y SELECT
C SELECT
IC1701
RF SW
ANT SELECT
VIDEO INPUT
LD
VIDEO
S INPUT
Y
C
REC OUT
ANT A
ANT B

11.3 UCOM BLOCK


AV I/O BLOCK
INP1
INP2
HOLD CIRCUIT
VM BLOCK
OSD BLK
OSD R
OSD G
OSD B
OSD BLK
VIDEO BLOCK
SHARPNESS
V MUTE
LW
PF1
PF2
REC MUTE
PINP BLOCK
CLK
DATA
SCLK
SDATA
PINP ENB
PINP RST
EP RST
E2P ROM
SDA(E)
SCL(E)
SDA(E)
SCLK(E)
CONV ENB
CONV MUTE
CONVERGENCE BLOCK
DATA
CLK
RESET IC IC903
RESET
RESET CIRCUIT
IC901
PD5362B
AUDIO BLOCK
VOLUME
A MUTE
CPU RESET
POWER SUPPLY BLOCK
RELAY
AC CLK
HOLD CIRCUIT
ANT SW
ANT SW
H SYNC2
AFT 2
TUNNER2 BLOCK
SCLK
SDATA
TUNNER1 BLOCK
TV A MUTE
TV V MUTE
H SYNC1
AFT 1
FRONT CONTROL BLOCK
REM
KEY
2
3
1
7
4

11.4 AUDIO BLOCK


DUAL TUNER ASSY
FE
EQ
FE
EQ
ANT A
ANT B
LD
L
R
VIDEO
L
R
REC
OUT
L
R
IC1603
AUDIO INPUT SELECTOR
IC1401
VOL CONTROL
L ch (16Ω)
R ch (16Ω)
AV I/O ASSY
TUNER · VIDEO ASSY

12. REMOTE CONTROL UNIT (AXD1426 : CU-SD098) (FOR SD-P5193-K)

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits(any digit apart from 0), such as 560 ohm and 47k ohm(tolerance is shown by J=5%, and K=10%).

560 Ω → 56 × 10^1 → 561 ······························ RD1/4PU$\boxed{5}\boxed{6}\boxed{1}$J
47k Ω → 47 × 10^3 → 473 ······························ RD1/4PU$\boxed{4}\boxed{7}\boxed{3}$J
0.5 Ω → 0R5 ······························ RN2H$\boxed{0}\boxed{R}\boxed{5}$K
1 Ω → 1R0 ······························ RS1P$\boxed{1}\boxed{R}\boxed{0}$K

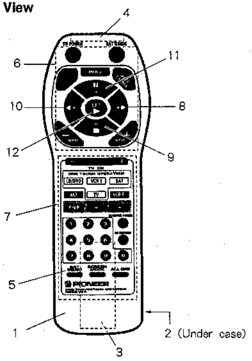
Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).

5.62k Ω → 562 × 10^1 → 5621 ······························ RN1/4PC$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

12.1 TOP VIEW AND PARTS LIST

Mark	No.	Description	Part No.
	1	REMOTE CONTROL CASE (A)	AZN2332
	2	REMOTE CONTROL CASE (B)	AZN7326
	3	BATTERY COVER	AZN7327
	4	FILTER	AZA7152
	5	NAME PLATE	AZA2024
	6	RUBBER SHEET (A)	AZA2023
	7	RUBBER SHEET (B)	AZA2022
	8	MAIN KEY (FF)	AZN2331
	9	MAIN KEY (STOP)	AZN2330
	10	MAIN KEY (REV)	AZN2329
	11	MAIN KEY (PAUSE)	AZN2328
	12	MAIN KEY (PLAY)	AZN2327
		SCREW	AZB7052

• Top View

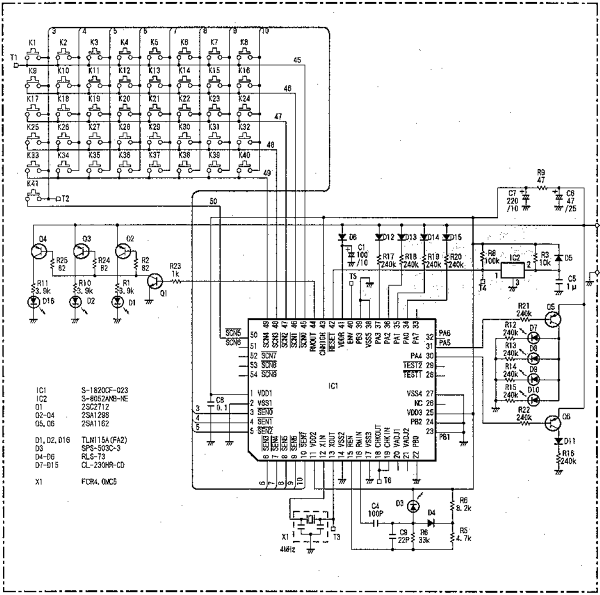


12.2 PCB PARTS LIST

Mark	No.	Description	Part No.
	SEMICONDUCTORS		
	IC1		S-1820CF-023
	IC2		S-8052ANB-NE
	Q1		2SC2712
	Q2-Q4		2SA1298
	Q5, Q6		2SA1162
	D1, D2, D16		TLN115A(FA2)
	D3		SPS-503C-3
	D4-D6		RLS-73
	D7-D15		CL-230HR-CD
	CAPACITORS		
	C1		CEAS101M10
	C6		CEAS470M25
	C7		CEAS221M10
	C4		CCSQSL101J50
	C5		CKSQYF106Z50
	C8		CKSQYF105Z50
	C9		CCSQSL220J50
	RESISTORS		
	R1, R10, R11		RD1/4PU392J
	OTHER RESISTORS		RD1/10S☐☐☐J
	OTHERS		
	X1	CERAMIC RESONATOR(4.0MHz)	FCR4.0MC5

12.3 SCHEMATIC DIAGRAM

REMOTE CONTROL UNIT (AXD1426 : CU-SD098)

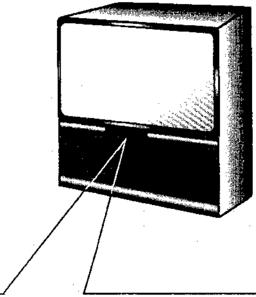

T1
T2
K1
K2
K3
K4
K5
K6
K7
K8
K9
K10
K11
K12
K13
K14
K15
K16
K17
K18
K19
K20
K21
K22
K23
K24
K25
K26
K27
K28
K29
K30
K31
K32
K33
K34
K35
K36
K37
K38
K39
K40
K41
3
4
5
6
7
8
9
10
45
46
47
48
49
50
Q4
Q3
Q2
Q1
R25 82
R24 82
R2 82
R23 1k
R11 3.9k
R10 3.9k
R1 3.9k
D16
D2
D1
D6
C1 100 /10
D12
D13
D14
D15
R17 240k
R18 240k
R19 240k
R20 240k
T5
R9 47
C7 220 /10
C6 47 /25
BATTERY 1.5V×2
R8 100k
IC2
R3 10k
D5
C5 1μ
T4
R21 240k
Q5
R12 240k
D7
R13 240k
D8
R14 240k
D9
R15 240k
D10
R22 240k
Q6
D11
R16 240k
IC1
SCN5 50
SCN6 51
52 SCN7
53 SCN8
54 SCN9
1 VDD1
2 VSS1
3 SEN0
4 SEN1
5 SEN2
C8 0.1
SCN4 49
SCN3 48
SCN2 47
SCN1 46
SCN0 45
RMOUT 44
CARHIGH 43
RESET 42
VDDR 41
ENV 40
PB3 39
VSS5 38
PA3 37
PA2 36
PA1 35
PA0 34
PA7 33
32 PA6
31 PA5
PA4 30
TEST2 29
TEST1 28
VSS4 27
NC 26
VDD3 25
PB2 24
23 PB1
SEN3 6
SEN4 7
SEN5 8
SEN6 9
SEN7 10
VDD2 11
XIN 12
XOUT 13
VSS2 14
REN 15
RMIN 16
VSS3 17
CHKOUT 18
CHKIN 19
VADJ1 20
VADJ2 21
PB0 22
T6
C4 100P
D3
D4
R6 8.2k
C9 22P
R6 33k
R5 4.7k
X1 4MHz
T3
IC1 S-1820CF-023
IC2 S-8052ANB-NE
Q1 2SC2712
Q2-Q4 2SA1298
Q5, Q6 2SA1162
D1, D2, D16 TLN115A(FA2)
D3 SPS-503C-3
D4-D6 RLS-73
D7-D15 CL-230HR-CD
X1 FCR4.0MC5

13. PANEL FACILITIES

• FRONT PANEL

A flip-down door conceals the control panel. Push gently and release, to open the door. To close the door, lift it back up into place.

NOTE:
If you accidentally pull the door, it may not shut properly. Push the door back in to shut it.



① POWER STANDBY/ON indicator

② MAIN POWER switch

Press once to turn on the power (STANDBY MODE). Press again to turn off the power.

③ REMOTE SENSOR

This sensor picks up infrared signals from the remote control unit.

④ POWER switch (STANDBY/ON)

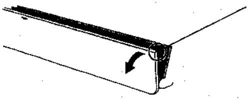
Press once to turn on the power. Press again to turn off the power.

⑤ INPUT SELECTOR button

Press to select your program source; TV, Videodisc player and VIDEO. Each press of the INPUT SELECTOR changes the selection to the next source.

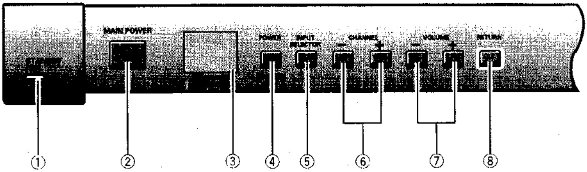
⑥ CHANNEL buttons

Press plus (+) or minus (–) to tune to a higher or lower channel. Only the preset channels can be tuned in using these buttons.



In some cases, the door may only open slightly when pushed. In such cases, open the door with your finger as shown in the figure below.

SD-P5191-K/SD-P4691-K



⑦ VOLUME buttons

Press plus (+) button to increase the volume, press minus (–) button to decrease it.

⑧ RETURN button

Press to set the Projection Monitor to its initial mode instantly if either sound or picture disappear from the speaker system or the screen during adjustment.

- Adjust the Projection Monitor again after pressing the RETURN button, as all settings have been cleared.

When the RETURN button is pressed, the Projection Monitor is set as follows:
PICTURE: Parameters, set to 0.
VOLUME: Remains at the last setting.
P-IN-P/MUTE/VNR: Set to OFF.
INPUT SELECTOR: Set to TV.
TV CHANNEL: Remains at the last channel set.
MTS: Remains at the last setting.
CC: OFF
COLOR TEMP: COOL

- When this button is pressed during the outer point convergence, the outer point convergence returns to the initial mode.

NOTE:
On rare occasions, an electrical discharge may occur inside the CRT. It makes a short, sharp pop and either no sound is produced or the volume level changes by itself. The Picture-in-Picture function will be cancelled automatically if an electrical discharge occurs when this function is engaged. However, VNR resume automatically when an electrical discharge occurs. When other abnormal functioning is suspected, turn off the power of the unit with the ① MAIN POWER switch, and after some time, turn on the power with ① MAIN POWER switch and ② POWER switch. If the abnormal functioning cannot be corrected, contact an authorized PIONEER service center.

CAUTION:

Do not press any operation button on the Projection Monitor or the remote control unit while recording. Signals from the REC jacks may be temporarily interrupted when a button is pressed.

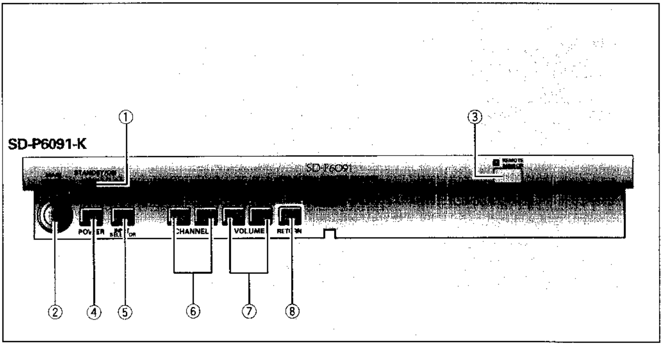
ATTENTION

The Projection Monitor Receiver will not function properly in the following cases.

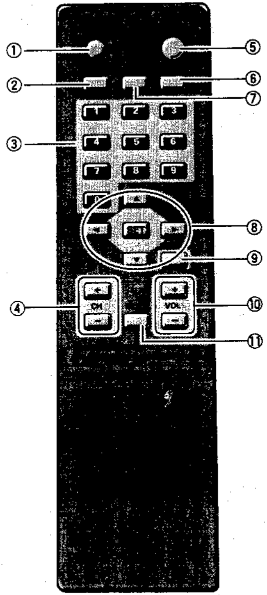
- Lightning storms.
- High static electricity environment.
- Poor voltage regulation in the power source.

If the Projection Monitor does not operate properly, reset it as follows:

1. Unplug from the power supply for approximately 1 minute.
2. Plug the power cord in a receptacle again to reset it.



• REMOTE CONTROL UNIT (CU–SD090)



① **INPUT SELECTOR button (TV/LD/VIDEO)**
Press the button to select the source you wish to watch.

② **ANT (antenna selector) button**
Press to switch between ANTENNA-A and ANTENNA-B when you wish to watch TV.

③ **Direct channel selection buttons**
Press the button (or buttons) that corresponds to the channel that you wish to watch.

④ **CH (channel) +, – buttons**
Press plus (+) or minus (–) to tune in a higher or lower channel. Only the preset channels can be tuned in using these buttons.

⑤ **POWER button (STANDBY/ON)**
Turns the power of the monitor on and off.

⑥ **P IN P button**
Press to turn the Picture-in-Picture function on and off.

⑦ **CH RETURN (channel return) button**
Press to switch between the current channel and the channel you were watching immediately before.

⑧ **Select / Adjust / Set buttons (SET, ◄, ►, ▲, ▼)**
◄, ►, ▲, ▼: Press to select, adjust or set items on the menu screen.
SET: Press to activate the selected function.

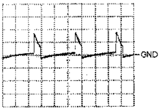
⑨ **MENU button**
Press to turn on the menu screen for use in function selection. Press again to return to normal TV screen.

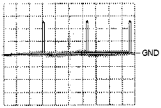
⑩ **VOL (volume) +, – buttons**
Press plus (+) button to increase the volume, press minus (–) button to decrease it.
Volume level will appear on the screen as numbers and a bar graph. '63' indicates the maximum volume level.
The display will disappear from the screen after 2 seconds.
*Volume display will change color automatically according to the selected input mode.

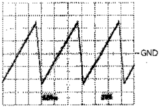
⑪ **MUTE button**
Press to temporarily turn off the sound. Press again to return to the previous volume level. The volume display will turn red while the mute function is set and will disappear from screen when the mute function is canceled.

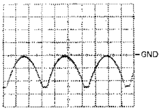
• Waveformes at CONVERGENCE ASSY

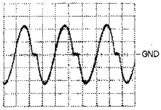
- Input signal : Color bar
- Picture quality : Standard
- DC range (Unless otherwise noted.)

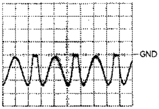

① **D2305 Anode**
V range : 2V/div.
H range : 20 μsec/div.

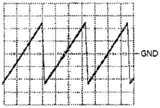

② **Between R2321 and R2322**
V range : 2V/div.
H range : 5msec/div.

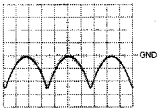

③ **Q2323 Base**
V range : 0.5V/div.
H range : 20 μsec/div.

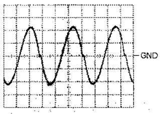

④ **Q2324 Base**
V range : 1V/div.
H range : 20 μsec/div.

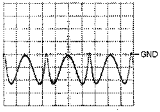

⑤ **D2302 pin 2**
V range : 0.5V/div.
H range : 20 μsec/div.

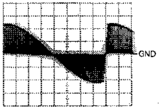

⑥ **D2301 pin 2**
V range : 1V/div.
H range : 20 μsec/div.

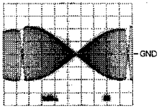

⑦ **Q2326 Base**
V range : 0.5V/div.
H range : 5msec/div.

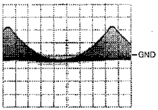

⑧ **Q2327 Base**
V range : 1V/div.
H range : 5msec/div.

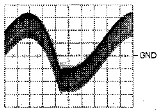

⑨ **D2308 pin 2**
V range : 0.5V/div.
H range : 5msec/div.

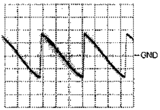

⑩ **D2307 pin 2**
V range : 1V/div.
H range : 5msec/div.

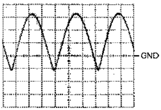

⑪ **C2432 ⊖ side**
V range : 0.5V/div.
H range : 2msec/div.

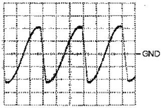

⑫ **C2374 ⊖ side**
V range : 0.5V/div.
H range : 2msec/div.

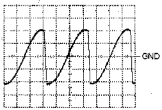

⑬ **C2431 ⊖ side**
V range : 0.5V/div.
H range : 2msec/div.

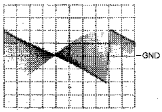

⑭ **IC2303 pin 1**
V range : 1V/div.
H range : 2msec/div.

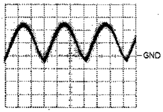

⑮ **IC2320 pin 7**
V range : 0.5V/div.
H range : 5msec/div.


⑯ **IC2313 pin 7**
V range : 0.5V/div.
H range : 5msec/div.

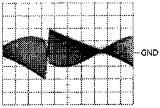

⑰ **IC2311 pin 7**
V range : 0.5V/div.
H range : 20 μsec/div.


⑱ **IC2311 pin 1**
V range : 0.5V/div.
H range : 5msec/div.

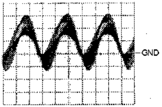

⑲ **Q6 pin 6 (SVR)**
V range : 0.5V/div.
H range : 2msec/div.


⑳ **Q6 pin 4 (SHR)**
V range : 0.5V/div.
H range : 20 μsec/div.

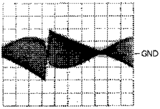
㉑ **G5 pin 6 (SVR)**
V range : 0.5V/div.
H range : 2msec/div.



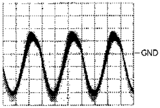
㉒ **G5 pin 4 (SHR)**
V range : 0.2V/div.
H range : 20 μsec/div.



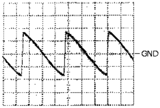
㉓ **G4 pin 6 (SVR)**
V range : 0.5V/div.
H range : 2msec/div.



㉔ **G4 pin 4 (SHR)**
V range : 0.2V/div.
H range : 20 μsec/div.



㉕ **G4 pin 2 (VR)**
V range : 0.5V/div.
H range : 5msec/div.



14. SPECIFICATIONS

• FOR SD-P5191-K, SD-P4691-K AND SD-P6091-K

Display section

Reception system	American TV standard NTSC system
Screen size	60" (SD-P6091-K) 51" (SD-P5191-K) 46" (SD-P4691-K)
CRT	7" High focus CRT x 3
Brightness (White peak)	430 Foot-Lambert (SD-P6091-K) 600 Foot-Lambert (SD-P5191-K) 700 Foot-Lambert (SD-P4691-K) [100% Window signal input contrast, bright Max.]
Horizontal resolution	1000 lines (SD-P6091-K) 920 lines (SD-P5191-K) 830 lines (SD-P4691-K) [Input digital test pattern (1000 lines resolution)]
Input terminals	2 video input systems, S-VIDEO input jacks (Y/C separate INPUT) 2 audio input systems
Output terminals	REC OUTPUT (To VIDEO) Video output, audio output (For recording) x 1
Input signal	Video signal: 1.0 Vp-p ±0.2V (75 ohms load) Audio signal: 500mV rms
Input impedance	Video input: 75 ohms ±10% Audio input: 22 kilo-ohms or more
Input signal polarity	Synchronized negative
Output terminal signal ratings: Output terminals (VIDEO)	Video signal: 1Vp-p (75 ohms load) Audio signal: 500 mV rms (100% modulation)
Output impedance	Video output: 75 ohms ±10% Audio output: Less than 1 kilo-ohms

Tuner section

Circuit type	Video signal detection: PLL full synchronous detection PLL digital synthesizer system Audio multiplex: BTSC system
Reception channels	VHF; CH2~CH13, UHF; CH14~CH69 CATV (STANDARD, AIR, IRC or HRC) CATV 1-125 CH
Antenna terminals	Antenna terminal, 75 ohms UNBAL, F-type connector (VHF, UHF MIXED)

Amplifier section

Effective output Front both channels driven	2W + 2W (THD. 1.5% 50 Hz to 15.000Hz, 16 ohms)
Built-in speaker system	10 cm (3-15/16 in) full range x 2

Electrical section, miscellaneous

Power requirements	120 V AC, 60 Hz
Power consumption	260 W, 500 VA (CSA)
External dimensions	
SD-P6091-K	1431 (W) x 655 (D) x 1429 (H) mm 56-5/16 (W) x 25-3/4 (D) x 56-1/16 (H) in
SD-P5191-K	1171 (W) x 545 (D) x 1287 (H) mm 46-1/16 (W) x 21-7/16 (D) x 50-5/8 (H) in
SD-P4691-K	1055 (W) x 545 (D) x 1209 (H) mm 41-1/2 (W) x 21-7/16 (D) x 47-3/4 (H) in
Weight of main unit	
SD-P6091-K	114 kg (251 lb 6oz)
SD-P5191-K	78 kg (172 lb)
SD-P4691-K	75 kg (165 lb 6oz)

Wireless remote control unit

Operation system	Infrared remote control system
Power source	Two DURACELL ®"AA" MN1500 1.5 V alkaline dry cell batteries
Dimensions	45 (W) x 18(H) x 185 (D) mm 1-1/4 (W) x 11/16 (H) x 7-1/4 (D) in
Weight	65g (2oz) (without batteries)

Accessories

Operating instructions	1
Warranty card	1
Remote control unit	1
DURACELL ®"AA" MN1500 1.5V Alkaline dry cell batteries	2

NOTE:
Specifications and design are subject to possible modifications without notice due to improvements.

• FOR SD-P5193-K AND SD-P6093-K

Display section

Reception system	American TV standard NTSC system
Screen size	60" (SD-P6093-K) 51" (SD-P5193-K)
CRT	7" High focus CRT x 3
Brightness (White peak)	430 Foot-Lambert (SD-P6093-K) 600 Foot-Lambert (SD-P5193-K) [100% Window signal input contrast, bright Max.]
Horizontal resolution	1000 lines (SD-P6093-K) 920 lines (SD-P5193-K) [Input digital test pattern (1000 lines resolution)]
Input terminals	2 video input systems, S-VIDEO input jacks (Y/C separate INPUT) 2 audio input systems
Output terminals	REC OUTPUT (To VIDEO) Video output, audio output (For recording) x 1
Input signal	Video signal: 1.0 Vp-p ±0.2V (75 ohms load) Audio signal: 500mV rms
Input impedance	Video input: 75 ohms ±10% Audio input: 22 kilo-ohms or more
Input signal polarity	Synchronized negative
Output terminal signal ratings: Output terminals (VIDEO)	Video signal: 1Vp-p (75 ohms load) Audio signal: 500 mV rms (100% modulation)
Output impedance	Video output: 75 ohms ±10% Audio output: Less than 1 kilo-ohms

Tuner section

Circuit type	Video signal detection: PLL full synchronous detection PLL digital synthesizer system Audio multiplex: BTSC system
Reception channels	VHF; CH2~CH13, UHF; CH14~CH69 CATV (STANDARD, AIR, IRC or HRC) CATV 1-125 CH
Antenna terminals	Antenna terminal, 75 ohms UNBAL, F-type connector (VHF, UHF MIXED)

Amplifier section

Effective output Front both channels driven	2W + 2W (THD. 1.5% 50 Hz to 15.000Hz, 16 ohms)
Built-in speaker system	10 cm (3-15/16 in) full range x 2

Electrical section, miscellaneous

Power requirements	120 V AC, 60 Hz
Power consumption	260 W, 500 VA (CSA)
External dimensions	
SD-P6093-K	1431 (W) x 655 (D) x 1429 (H) mm 56-5/16 (W) x 25-3/4 (D) x 56-1/16 (H) in
SD-P5193-K	1171 (W) x 545 (D) x 1287 (H) mm 46-1/16 (W) x 21-7/16 (D) x 50-5/8 (H) in
Weight of main unit	
SD-P6093-K	117 kg (258 lb)
SD-P5193-K	81 kg (178 lb 10 oz)

Wireless remote control unit

Operation system	Infrared remote control system
Power source	Two DURACELL ®"AA" MN1500 1.5 V alkaline dry cell batteries
Dimensions	45 (W) x 18 (H) x 185 (D) mm 1-1/4 (W) x 11/16 (H) x 7-1/4 (D) in
Weight	65g (2oz) (without batteries)

Accessories

Operating instructions	1
Warranty card	1
Remote control unit	1
DURACELL ®"AA" MN1500 1.5V Alkaline dry cell batteries	2
SD-P5193-K only	
Band holder	1
SD-P6093-K	
Acrylic panel	1
panel holder	4

NOTE:
Specifications and design are subject to possible modifications without notice due to improvements.